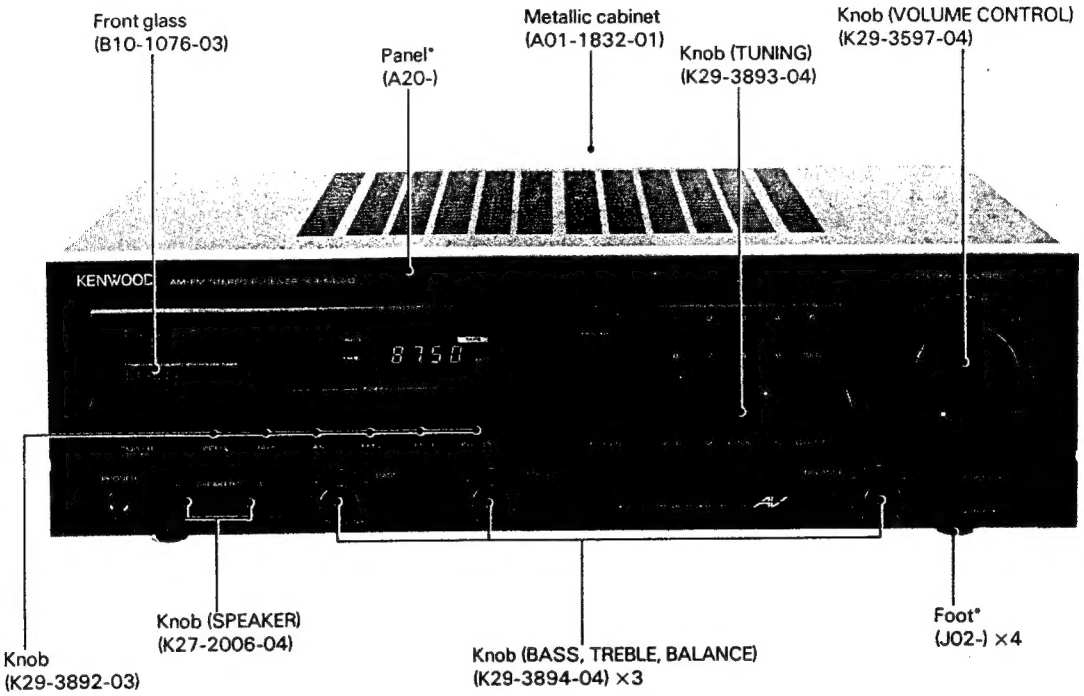
AUDIO/VIDEO STEREO RECEIVER

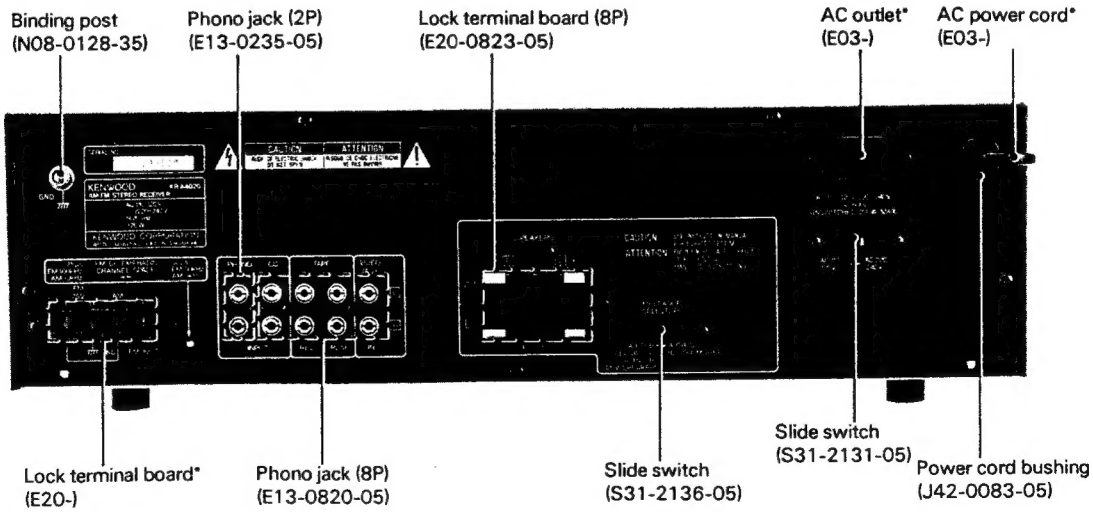
KR-A4020

SERVICE MANUAL

KENWOOD

B51-4138-00 (S) 3223





* Refer to parts list on page 28.

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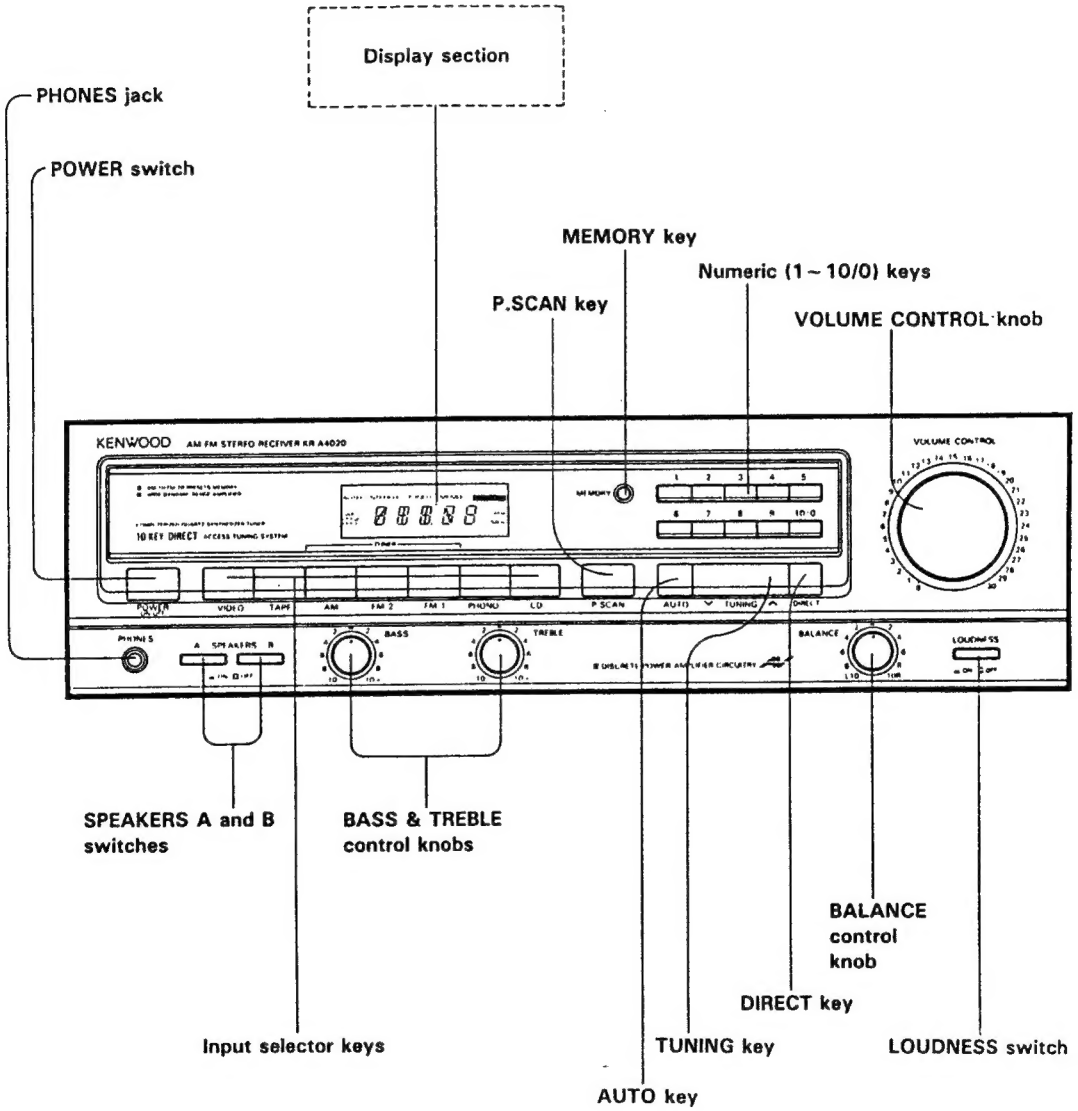
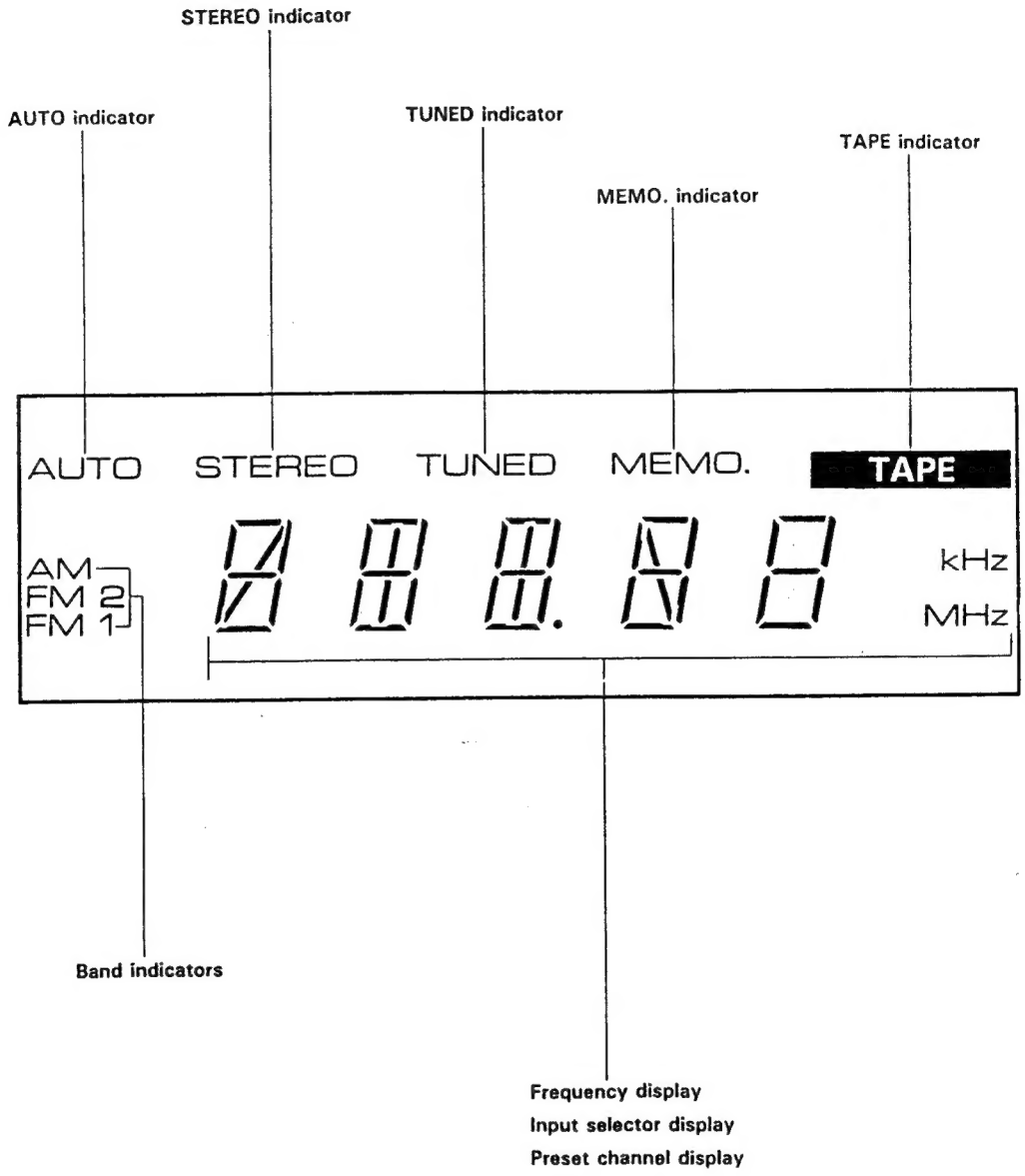
CONTENTS

CONTROLS AND INDICATORS



CONTROLS AND INDICATORS

Display section



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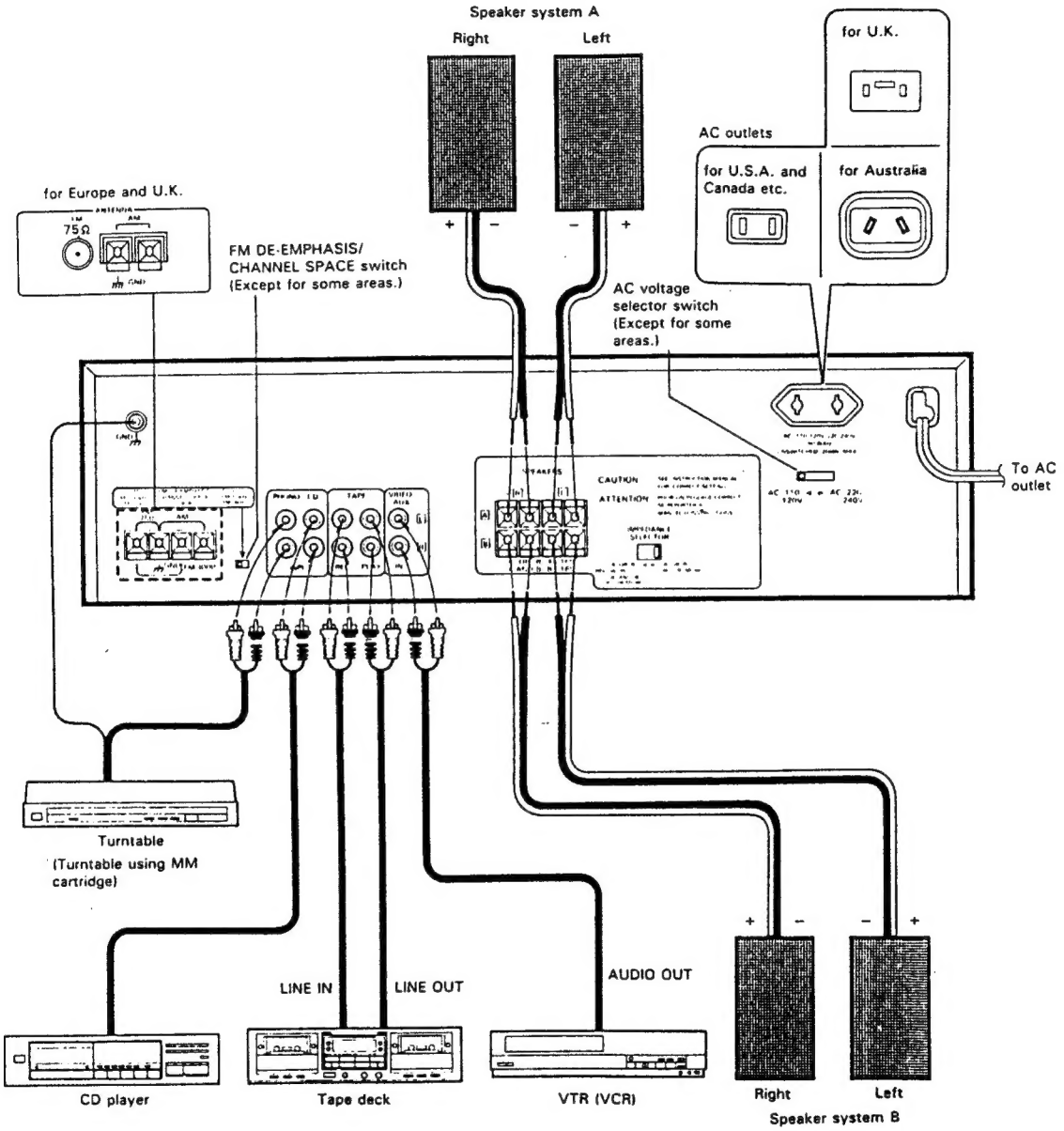
SYSTEM CONNECTIONS

Make connections as shown in the diagram below.
When connecting the related system components, refer also to the instruction manuals of the related components.
Do not plug in the power lead until all connections are complete.



Notes:

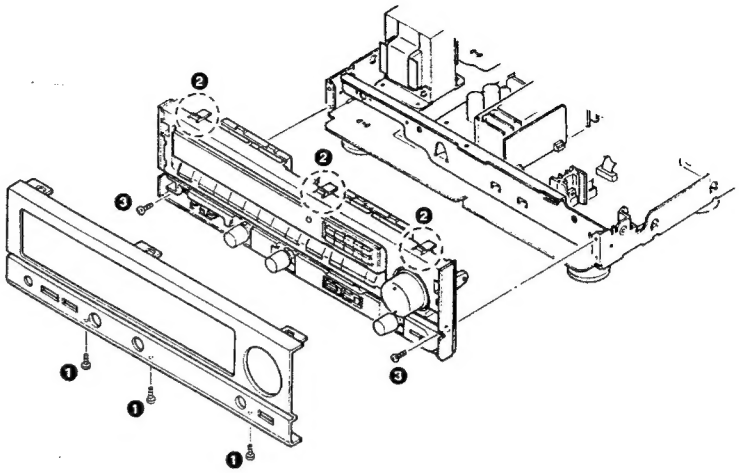
1. **To prevent possible problems, always disconnect the power plug or turn off the POWER switch of the receiver before connecting or disconnecting the audio cables.**
2. **When connecting audio cables, always insert the pin plugs securely into the connecting jacks.**
   - Insufficient insertion may result in no-sound problems or generation of noise.

DISASSEMBLY FOR REPAIR

Note: Remove the case before starting.
Removing the front panel and sub-panel.

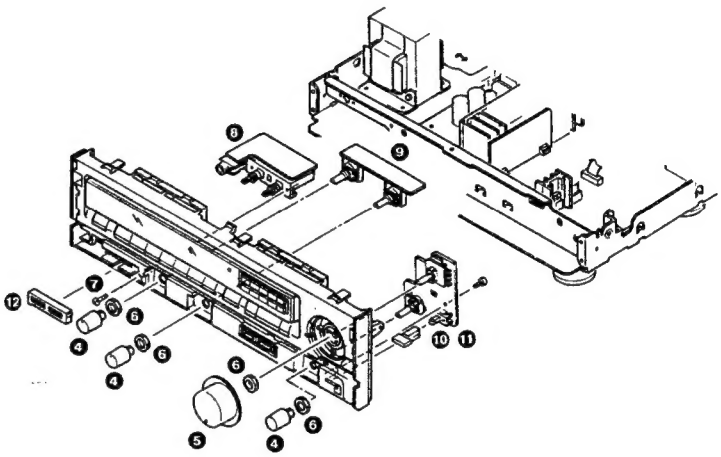
No. 1

1. Remove the three screws ❶ and three claws ❷ at the bottom, then remove the front panel.
2. Remove the two screws ❸ at the front, then remove the sub-panel.

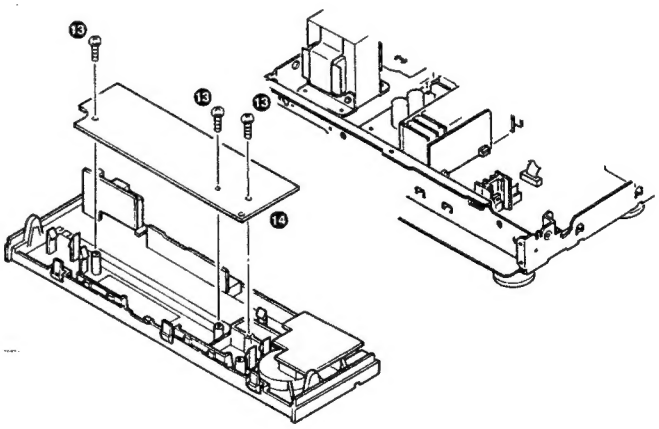


3. Remove the TONE, VOL, and BALANCE, knobs ❹ .
4. Remove the MAIN VR ❺ .
5. Remove the nut ❻ and screw ❼ , then remove the SP switch ❽ and the TONE VR ❾ , MAIN VR ❿ , and BALANCE VR ⓫ PC boards.

Note: To remove the SP changeover switch, remove the small mold ⓬ , then remove the screw ❼ .



1. With the front panel held as shown in the figure, remove the screw ⓭ , then remove the display PC board ⓮ .



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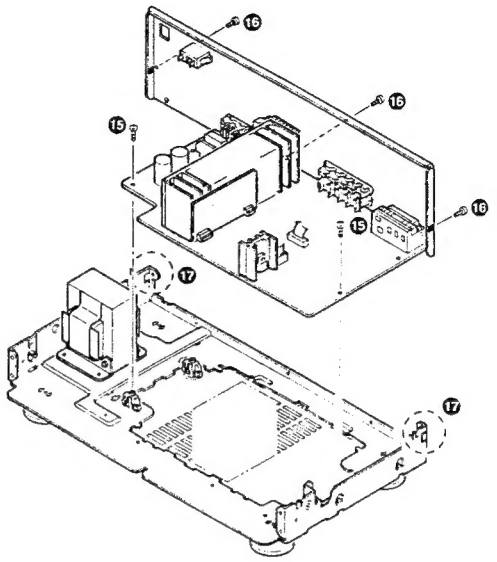
Removing the main PC board

Remove the sub-panel, then remove the main PC board. The main PC board can be removed even if the front panel and sub-panel have not been.

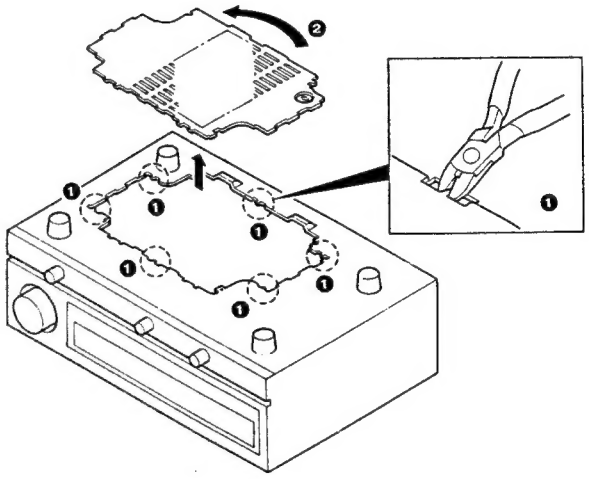
No. 4

1. Remove the two screws ⑮ holding the X14 PC board.
2. Remove the three screws (⑯ ; two at the sides and one at the center) from the rear panel.
3. Remove the rear panel with the X14 board while pushing the claw ⑰ at the side of the rear panel with a flat-bladed screwdriver.



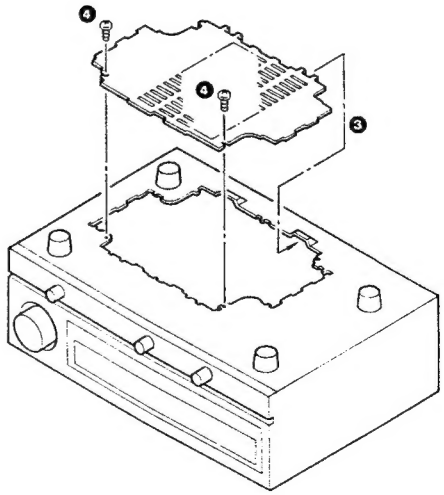
How to remove the repairing chassis

1. Cut the 6 parts ❶ of the repairing chassis. Remove the repairing chassis from main chassis.

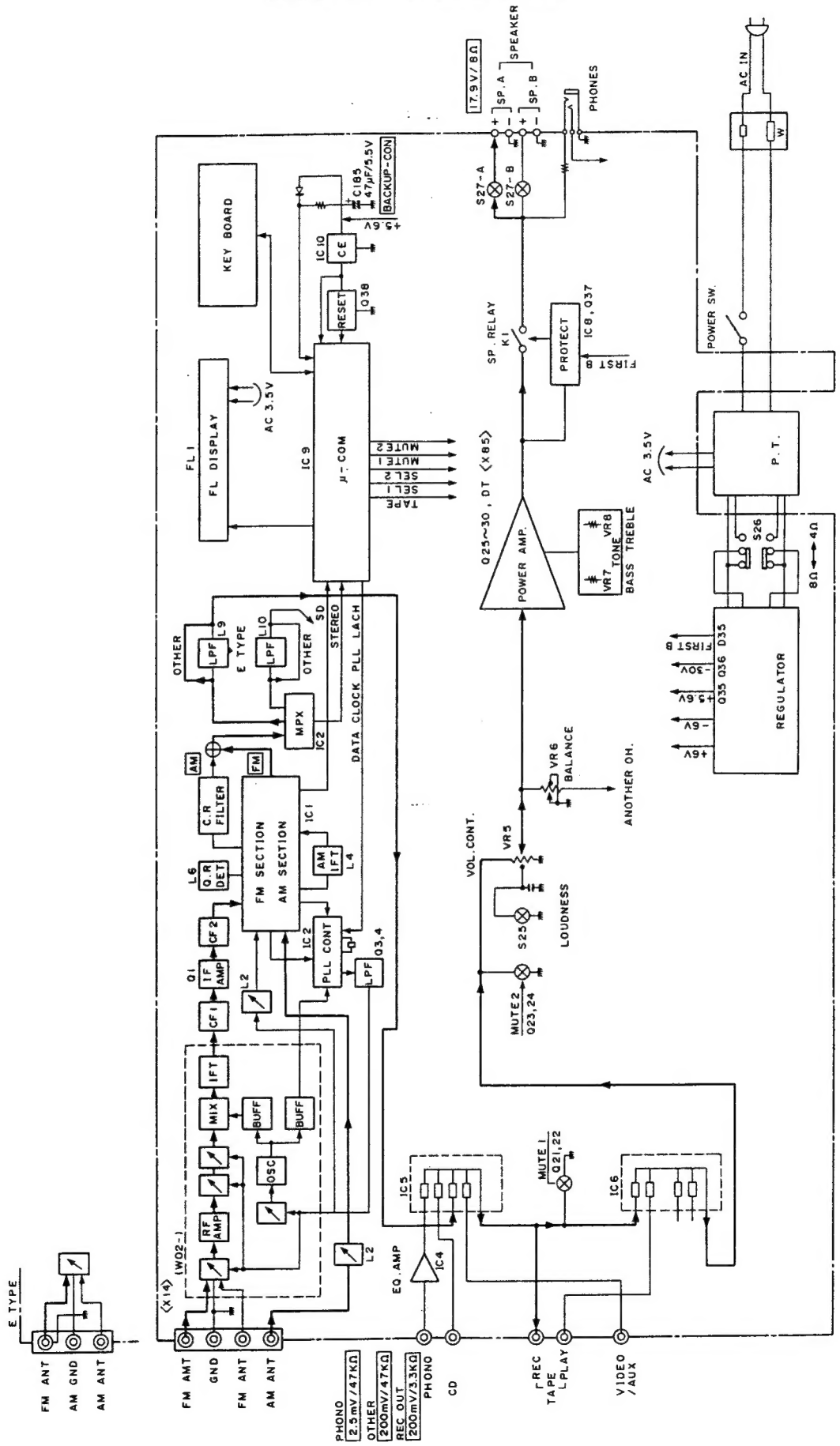


After repair

2. Turn the repairing chassis 180 degrees in the arrow direction ❷ .
3. Insert the 2 claws ❸ into main chassis.
4. Lock to the main chassis by 2 screws (M3 × 6) ❹ .



BLOCK DIAGRAM



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CIRCUIT DESCRIPTION

RECEIVER UNIT (X14-2840-10)

Ref. No.	Parts No.	Use/Function	Operation/Condition/Compatibility
IC1	LA1255	FM/AM system IC	FM IF amplification/detection/control, AM mixing IF amplification/detection
IC2	AN7470	PLL synthesizer IC	PLL electronic tuning
IC3	LM7001	MPX IC	MPX demodulation
IC4	NJM45580-A	PHONO EQ. Amp.	
IC5	TC4052BP	Input Selector	Input Selector
IC6	TC4052BP	Input Selector	Input Selector. Tape=Source
IC7	µPC7812HF	+12 V Regulator	+12 V AVR
IC8	µPC1237HA	Protection	
IC9	CXP5016-520S	Micro Computer	
IC10	PST529C	Reset IC	
Q1	2SC1923 (R, Q)	FM IF Amp	10.7 MHz amplification
Q3	2SC945(A) (Q, P) 2SC1740S (QO, R)	LPF	PLL low-pass filter
Q4	2SC1845 (F, E)	LPF	PLL low-pass filter
Q7	2SC845(A) (Q, P) 2SC1740S (Q, R)	Buffer	L6 buffer E TYPE ONLY
Q8	2SA733(A) (Q, P) 2SA933 (Q, R)	FM +B control	Electronic switch
Q9	2SA733(A) (Q, P) 2SA933 (Q, R)	AM +B control	Electronic switch
Q11, 12	2SC945(A) (Q, P) 2SC1740S (Q, R)	Emphasis switch	On: 75 µs; off 50 µs M Y TYPE
Q21, 22	2SC2878(B)	Select Mute	
Q23, 24	2SC2878(B)	Tape/Source Mute	
Q25, 26	2SC4137 (V, W)	Ideling Current	
Q27, 28	2SD2255*5	Amp.	Main amplifier final
Q29, 30	2SB1493*5	Amp.	
Q31, 32	2SC1845 (F, E)		
Q33	2SA733(A) (Q, P) 2SA933 (Q, R)	Mute Drive	
Q34	2SA733(A) (Q, P) 2SA933 (Q, R)	Mute Drive	
Q35	2SC2003 (L, K)	Regulator	
Q36	2SB764	Regulator	
Q37	2SA733(A) (Q, P) 2SA9330 (Q, R)	Protection Drive	
Q38	2SC945(A) (Q, P) 2SC1740S (Q, R)	µ-Com Reset	
Q39	2SA937F	Ch-SPACE SW	

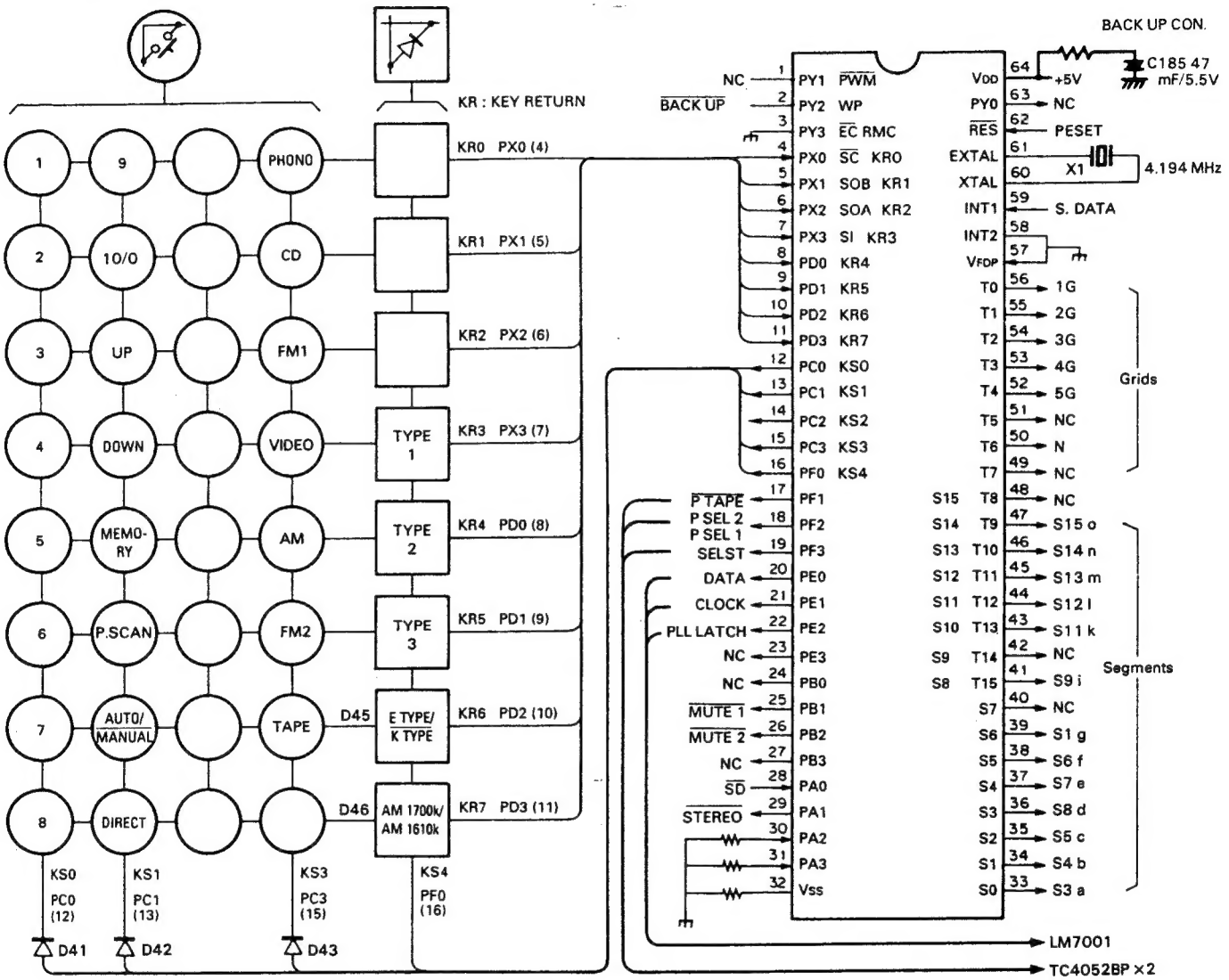
<DT> (X85-1170-00)

Ref. No.	Parts No.	Use/Function	Operation/Condition/Compatibility
Q1~4	2SA992 (F, E)	Differential amplifier, first stage	
Q5~8	2SC1845 (F, E)	Differential amplifier, second stage	
Q9, 10	2SA992 (F, E)	Current mirror	
Q11	2SC945(A) (Q, P) 2SC1740S (Q, R)	+12 V constant voltage	
Q12, 13	2SC945(A) (Q, P) 2SC1740S (Q, R)	Protection	

CIRCUIT DESCRIPTION

1. CXP5016-520S: Receiver microprocessor (X14-284X-XX : IC9)

1-1. Key Matrix connections



1-2. Setting of destinations, models and specifications depending upon diode key matrix

The setting of destinations, models and specifications is made according to the initial set diode key matrix.
In the following, "1" means "with diodes" and "0", "without diodes".

1) Model Set SW

Model set SW			MODEL	Function				
TYPE 1	TYPE 2	TYPE 3		TUNER BAND	DOLBY SURROUND	VOL. CONT with Moter	Switched VIDEO1, 2	REMOCON
0	0	1	KR-V6020 (OTHER)	FM1→FM2→AM	Provided	Provided	Provided	Provided
1	0	1	KR-V6020 (E TYPE)	↑	Not provided	↑	↑	↑
—	1	0	KR-A5520, A5020	↑	↑	↑	Not provided	↑
0	0	0	KR-A4020	FM1, FM2, AM	↑	Not provided	↑	Not provided

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CIRCUIT DESCRIPTION

1-3. Initial Setting

1) Function initial setting

Last channel memory ..... FM : 87.5MHz
..... AM (K) : 530kHz
..... AM (E) : 531kHz
Tuning mode ..... Auto
Input selector FM1
Muting ..... OFF

2) Microprocessor output port initial setting

Any figure in ( ) is a pin number.

MUTE 1 (25) ..... H
MUTE 2 (26) ..... H

The initial setting is performed in a following event :

1. When backup memory data is destroyed when reset is applied to the microprocessor.
2. When the power cord is plugged in to the AC wall outlet while pressing the TUNER key.

1-4. Test Mode Setting

1) Method of entering the test mode

1. While pressing the CD key, plug the power cord to the AC wall outlet. When the test mode is entered, the FL tube display all lights.

2) Method of canceling the test mode

1. Unplug the power cord from the AC wall outlet once.
2. Send the reset signal to the RESET pin or some other means to reset the microprocessor.

3) Contents of test mode

1. When the test mode is entered, the FL tube display all lights. This all lighting continues unless a effective remote control serial code or the test mode is canceled.
2. The test frequency is stored in memory for each preset channel. (For each frequency to be stored in memory, refer to its associated listing.)

1. Frequency memorized for each PRESET channel when the memory is cleared (Test frequency)

BAND	FM1		FM2		AM	
Destination	K	E	K	E	K	E
1	87.5 MHz	87.5 MHz	87.5 MHz	87.5 MHz	530 kHz	531 kHz
2	89.1	89.1	87.5	87.5	630	630
3	90.0	90.0	87.5	87.5	990	990
4	92.0	92.0	87.5	87.5	1440	1440
5	94.0	94.0	87.5	87.5	1610	1602
6	98.0	98.0	87.5	87.5	1700*	531
7	100.1	100.1	87.5	87.5	530	531
8	102.0	102.0	87.5	87.5	530	531
9	106.0	106.0	87.5	87.5	530	531
10	108.0	108.0	87.5	87.5	530	531

* Set for AM1700 only.

2. Destination set SW : E type/K type

Destination set SW	Destination	Band	Reception frequency band	Chennel space	Reference frequency
0	K	FM	87.5~108.0MHz	100kHz	50kHz
		AM	530~1610kHz 530~1700kHz	10kHz	10kHz
1	E	FM	87.5~108.0MHz	50kHz	50kHz
		AM	531~1602kHz	9kHz	9kHz

3. Specification set SW : AM1700k/AM1610k

With destination set SW at "0" : Effective only for K TYPE

Specification set SW	AM reception frequency band
0	530~1610kHz
1	530~1700kHz

CIRCUIT DESCRIPTION

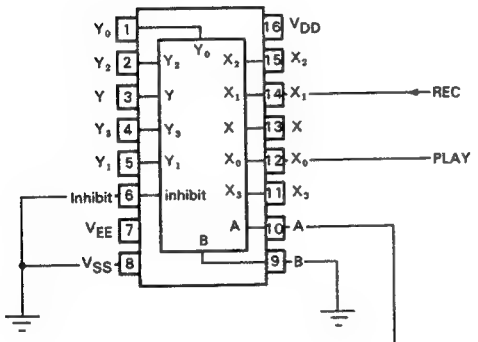
Pin No.	Pin name	I/O	Name	Function
1	PY1	O	—	N.C.
2	PY2	I	BACK UP	Backup (AC outlet off) detection. High: Normal state Low: AC outlet off When the power is switched on, high is input. When low is input, the microprocessor stops clock generation and enters the backup state. When the signal changed from low to high, the backup state changes to the normal state.
3	RMC	I	—	GND.
4~11	PX0~PX3 PD0~PD3	I	KR0~KR7	KEY RETURN signal input. High: There is input. Low: There is no input.
12~16	PC0~PC3 PF0	O	KS0~KS4	KEY SCAN signal output. Normally high is output. Key scan is performed when KEY is ON.
17	PF1	O	PTAPE	µPD4052 (select IC) control. High: OFF Tape monitor on/off control. Low: ON
18	PF2	O	PSEL2	µPD4052 (selector IC) control.
19	PF3	O	PSEL1 (H9070)	µPD4052 (selector IC) control.
20	PE0	O	DATA	LM7001(PLL IC) control serial data output. Data is latched on the rising edge of the clock.
21	PE1	O	CLOCK	LM7001, control serial data transfer shift clock output. Data is latched on the rising edge of the clock.
22	PE2	O	PLLLT	CE signal output to LM7001. When the signal is high, LM7001 is enabled.
23	PE3	O	—	N.C.
24	PB0	O	—	N.C.
25	PB1	O	MUTE 1	TAPE 2 REC OUT mute control. High: MUTE OFF Low: MUTE ON
26	PB2	O	MUTE 2	LINE OUT mute control. High: MUTE OFF Low: MUTE ON
27	PB3	O	—	N.C.
28	PA0	I	SD	Tuner tuned detection. High: NO SIGNAL Low: TUNED
29	PA1	I	STEREO	Tuner FM stereo detection. High: MONO Low: Stereo
30	PA2	I/O	—	Unused pin.
31	PA3	I/O	—	Unused pin.
32	Vss	—	GND	GND.
33~47	S0~S14	O	Sa~So, Sr	Fluorescent display segment drive signal output.
48~51	T8~T5	O	—	N.C.
52~56	T4~T0	O	G5~G1	Fluorescent display digit drive signal output.
57	V_{FDP}	—	—	Unused pin. This pin and GND are shorted.
58	INT2	I	—	Unused pin. This pin and GND are shorted.
59	INT1	I	SDATA	This pin and serial data input pin 30 are shorted.
60	XTAL	O	XTAL	Clock generation circuit output.
61	EXTAL	I	EXTAL	Clock generation circuit input.
62	RST	I	RESET	Reset signal input.
63	PY0	O	—	N.C.
64	V_{DD}	—	V_{DD}	+5 V power supply.

CIRCUIT DESCRIPTION

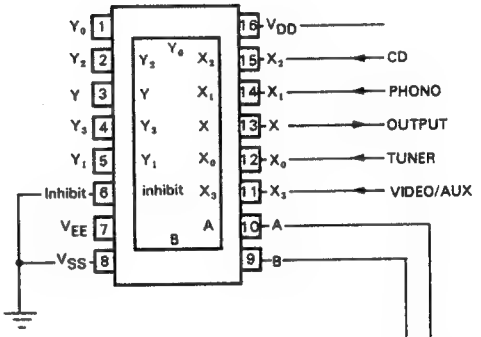
IC6 TRUTH TABLE	
TAPE SELECTOR L ch⑬, R ch③	PIN NO. 10
TAPE REC	L
TAPE PLAY	H

IC5 TRUTH TABLE		
OUTPUT L ch⑬, R ch③	PIN NO.	
	9	10
PHONO	L	H
CD	H	L
TUNER	L	L
VIDEO/AUX	H	H

IC6
TC4052BP

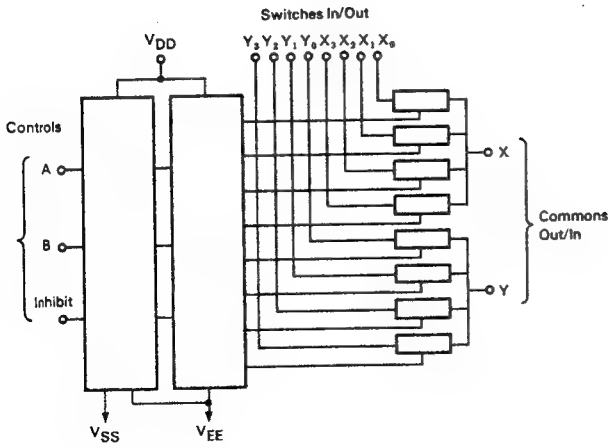


IC5
TC4052BP



SEL1(19)
SEL2(18)
TAPE(17)

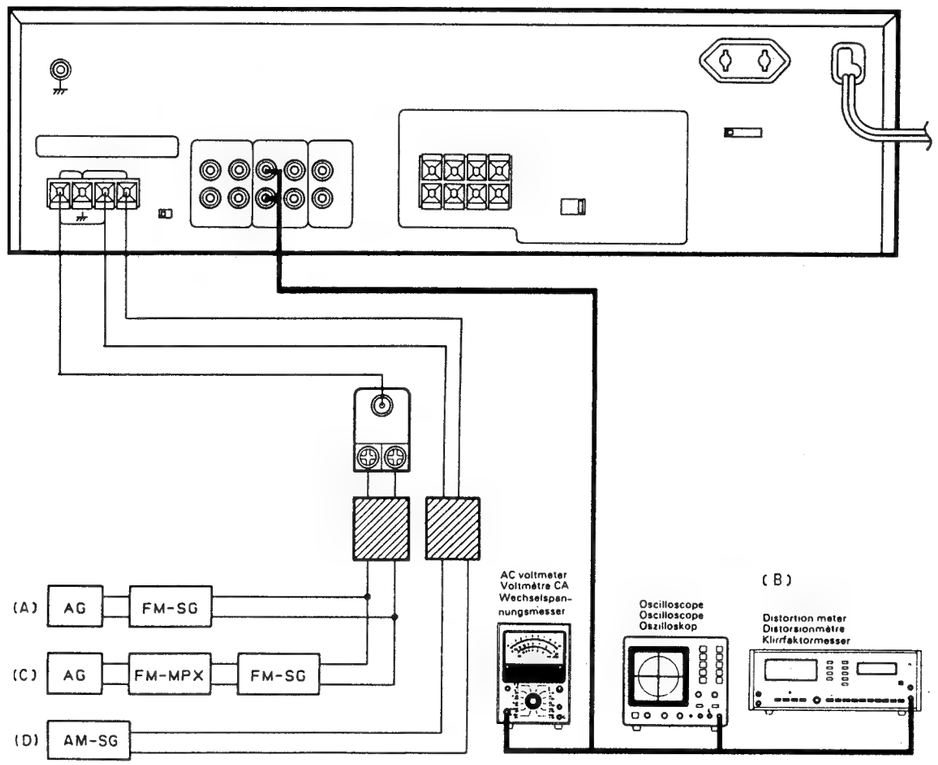
( ) is Pin No. of μ-Com IC9



				IC5	IC6
	B	A			
0	0	0	Y_0 X_0	TUNER	PLAY
0	0	1	Y_1 X_1	PHONO	REC
0	1	0	Y_2 X_2	CD	
0	1	1	Y_3 X_3	VIDEO/AUX	
1	×	×			

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION			SELECTOR: FM				
1	DETECTOR	(A) 98.0 MHz 1 kHz, ±75 kHz dev 60 dBμ (ANT input)	Connect a DC voltmeter between TP14 and TP15	AUTO or MONO 98.0 MHz	L6 (X05-)	0 V	(a)
2	VCO	(A) 98.0 MHz 0 dev 100 dBμ (ANT input)	Connect a frequency counter between TP12 and TP18 (GND)	AUTO 98.0 MHz	VR2 (X05-)	19.00 kHz	(b)
3	DISTORTION (STEREO)	(C) 98.0 MHz 1 kHz, ±68.25 kHz dev Selector: L or R Pilot: ±6.75 kHz dev 60 dBμ (ANT input)	(B)	98.0 MHz	IFT (Front end)	Minimu distortion. (L or R)	
4	SEPARATION (E type)	(C) 98.0 MHz Stereo signal 60 dBμ (ANT input)	(B)	AUTO 98.0 MHz	VR3 (X05-)	Minimum crosstalk.	
5	TUNING LEVEL	(A) 98.0 MHz 0 dev 18 dBμ (ANT input)	(B)	AUTO or MONO 98.0 MHz	VR1 (X05-)	Adjust VR1 and stop at the point where FL1 (TUNED) goes on.	
AM SECTION			Keep the AM loop antenna installed. SELECTOR: AM				
	TUNING LEVEL	(D) 1000 (999) kHz 26 dBμ (ANT input)	(B)	—	VR4 (X05-)	Adjust VR4 and stop at the point where FL1 (TUNED) goes on.	



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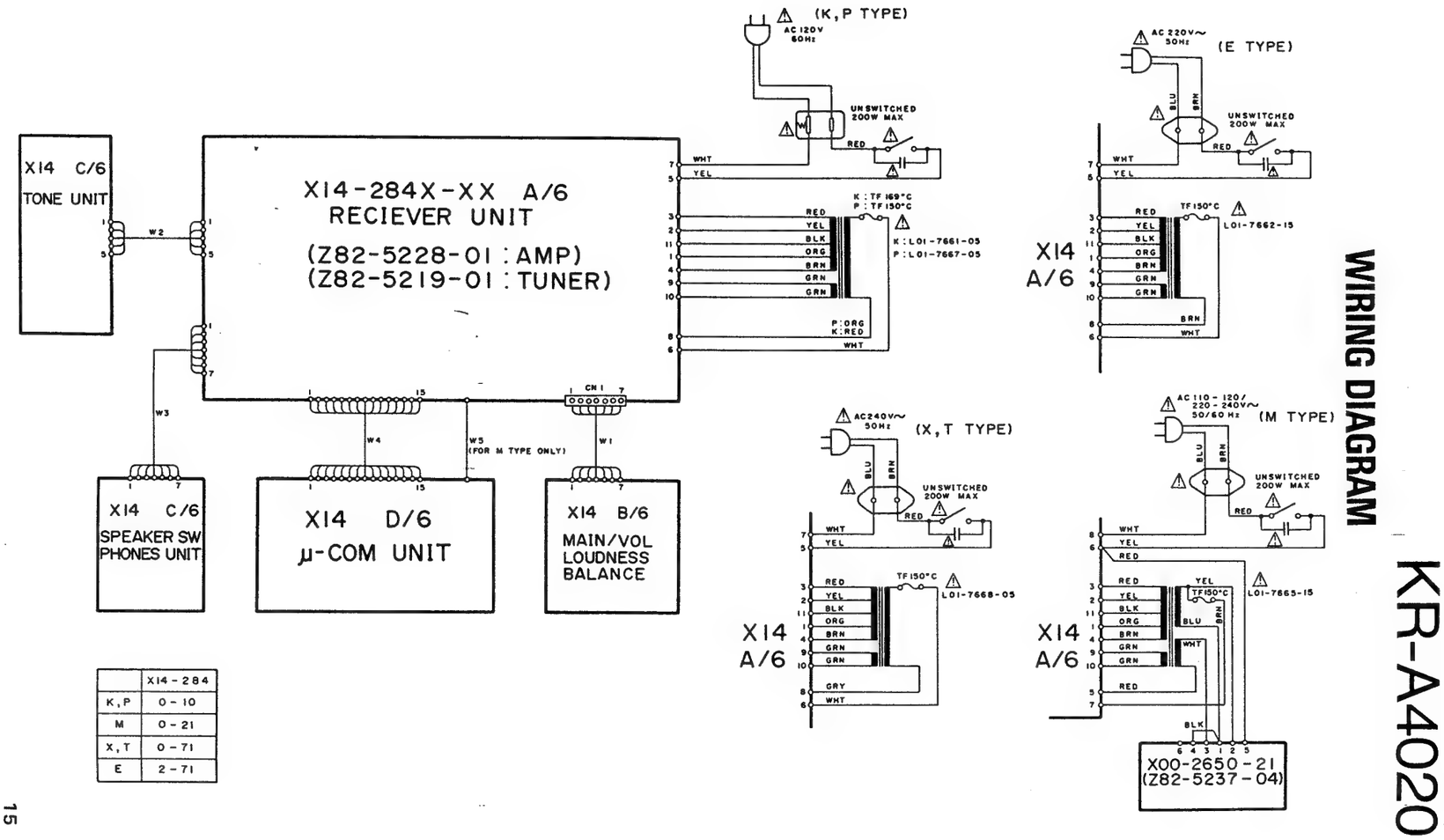
REGLAGE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU TUNER	POINT DE L'ALIGNEMENT	ALIGNER POUR	FIG.
SECTION MF			SELECTEUR : FM				
1	DETECTEUR	(A) 98.0MHz 1kHz.±75kHz dév 60dBμ(Entrée ANT)	Relier un voltmètre CC entre les TP14 et TP15.	AUTO ou MONO 98.0MHz	L6 (X05-)	0V	(a)
2	OSCILLATEUR CONTROLE PAR LA TENSION	(A) 98.0MHz 0 dév 100dBμ(Entrée ANT)	Relier un compteur de fréquence entre les TP12(VCO) et TP18(GND).	AUTO 98.0MHz	VR2 , (X05-)	19.00kHz	(b)
3	DISTORSION (STEREO)	(C) 98.0MHz 1kHz.68.25kHz dév Selection:l ou R Signal pilote: ±6.75kHz dév 60dBμ(Entrée ANT)	(B)	98.0MHz	Tête H.F. IFT	Distorsion minimale.	
4	SEPARATION (E type)	(C) 98.0MHz Signal stéréo 60dBμ(Entrée ANT)	(B)	AUTO 98.0MHz	VR3 (X05-)	Diaphonie minimale.	
5	NIVEAU D'ACCORDER	(A) 98.0MHz 0 dév — 18dBμ(Entrée ANT) 75Ω	(B)	AUTO ou MONO 98.0MHz	VR1 (X05-)	Ajuster VR1 et arrêter le mouvement de VR1 au moment où le FL1(TUNED)s'allume.	
SECTION MA			Laisser l'antenne bouche MA installée. SELECTEUR: AM				
(1)	NIVEAU D'ACCORDER	(A) 1000(999)kHz 26dBμ(Entrée ANT)	—	—	VR4 (X05-)	Ajuster VR4 et arrêter le mouvement de VR4 au moment où le FL1(TUNED)s'allume.	

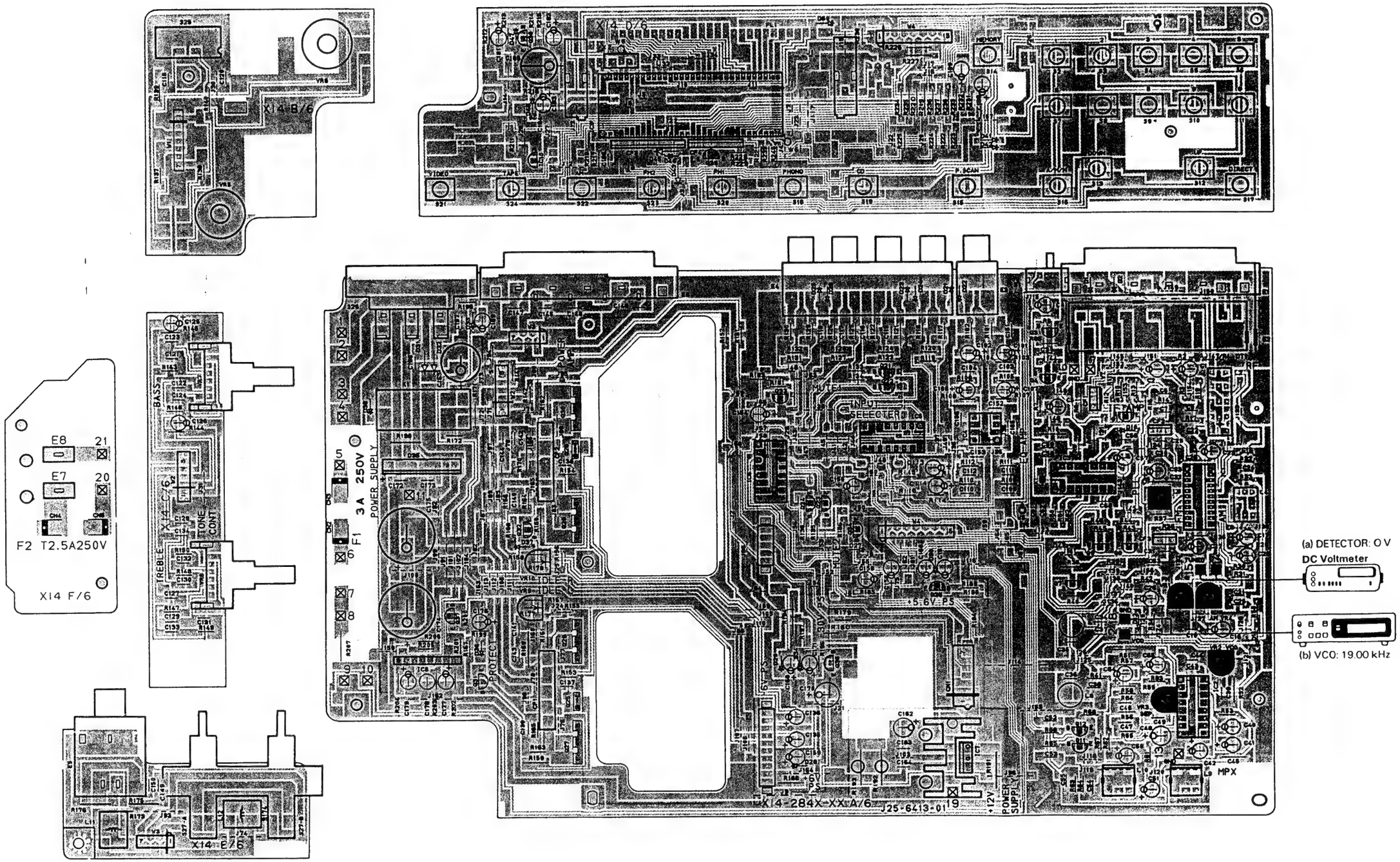
ABGLEICH

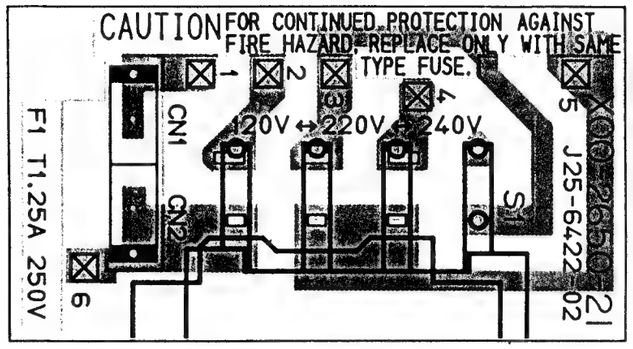
NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	TUNER-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
UKW-EMPFANGSABTEILUNG			WÄHLER: FM				
1	DETEKTOR	(A) 98,0MHz 1kHz.±75kHz Hub 60dBμ(ANT-Eingang)	Einen Gleichspannungs-messer zwischen TP14 und TP15 anschließen.	AUTO oder MONO 98,0MHz	L6 (X05-)	0V	(a)
2	SPANNUNGS-GEREGELTER OSZILLATOR	(A) 98,0MHz 0 Hub 100dBμ(ANT-Eingang)	Einen Frequenzzähler zwischen TP12(VCO) und TP18(GND) anschließen.	AUTO 98,0MHz	VR2 (X05-)	19,00kHz	(b)
3	KLIRRFAKTOR (STEREO)	(C) 98,0MHz 1kHz.±68,25kHz Hub Wähler: L oder R Pilotten: ±6,75kHz Hub 60dBμ(ANT-Eingang)	(B)	98,0MHz	Frontend IFT (X05-)	Minimal Klirrfaktor.	
4	STEREO KANAL TRENNUNG (E Type)	(C) 98,0MHz Stereo Signal 60dBμ(ANT-Eingang)	(B)	AUTO 98,0MHz	VR3 (X05-)	Minimal Klirrfaktor.	
5	ABSTIMM PEGEL	(A) 98,0MHz 0 Hub — 18dBμ(ANT-Eingang) 75Ω	(B)	AUTO oder MONO 98,0MHz	VR1 (X05-)	Den Pegel wiederstand aufdrehen, und dem VR1 Halt geben wobei den FL1(TUNED) anzeiger leuchtet wird.	
MW-EMPFANGSABTEILUNG			Die MW-Rahmenantenne angebracht lassen. WÄHLER: AM				
(1)	ABSTIMM PEGEL	(A) 1000(999)kHz 26dBμ(ANT-Eingang)	—	—	VR4 (X05-)	Den Pegel wiederstand aufdrehen, und dem VR4 Halt geben wobei den FL1(TUNED) anzeiger leuchtet wird.	

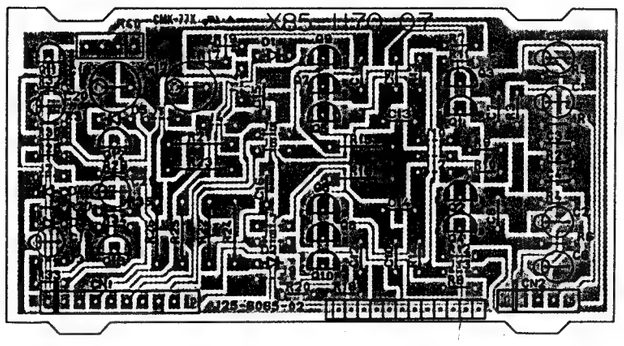
WIRING DIAGRAM



	X14-284
K,P	0-10
M	0-21
X,T	0-71
E	2-71


X14-D/6
X14-B/6
E8
21
E7
20
F2 T2.5A250V
X14 F/6
BASS
TREBLE
TONE CONT
X14-C/6
X14-E/6
POWER SUPPLY
3A 250V
F1
PROTECT
SELECTED
+5.6V PS
+6V PS
+12V
POWER SUPPLY
MPX
X14-284X-XX A/6 J25-64.13-01
(a) DETECTOR: 0 V
DC Voltmeter
(b) VCO: 19.00 kHz



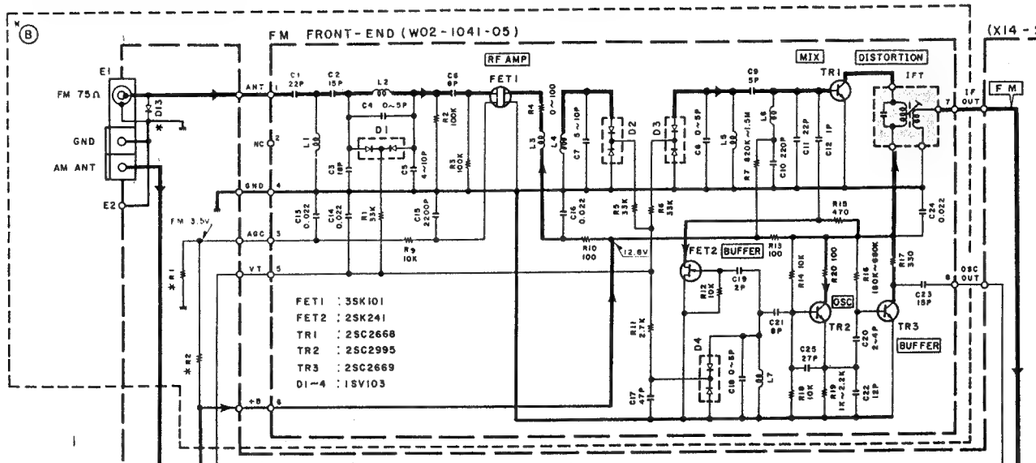


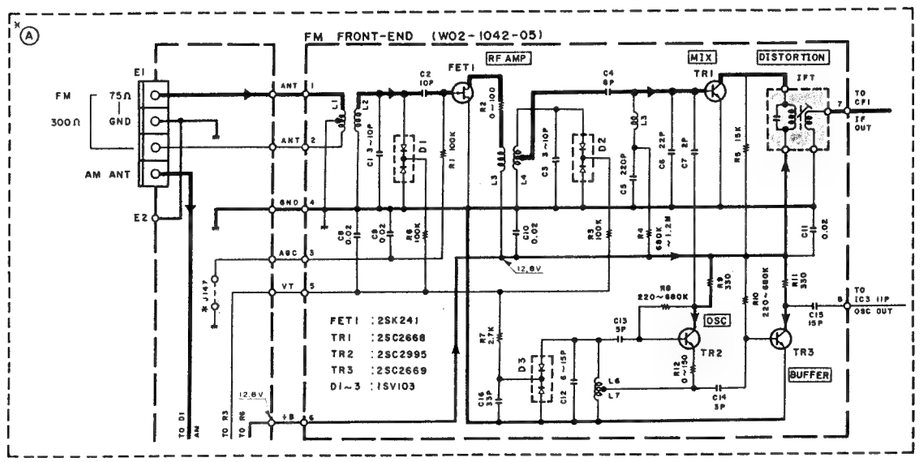
X14-284x-xx

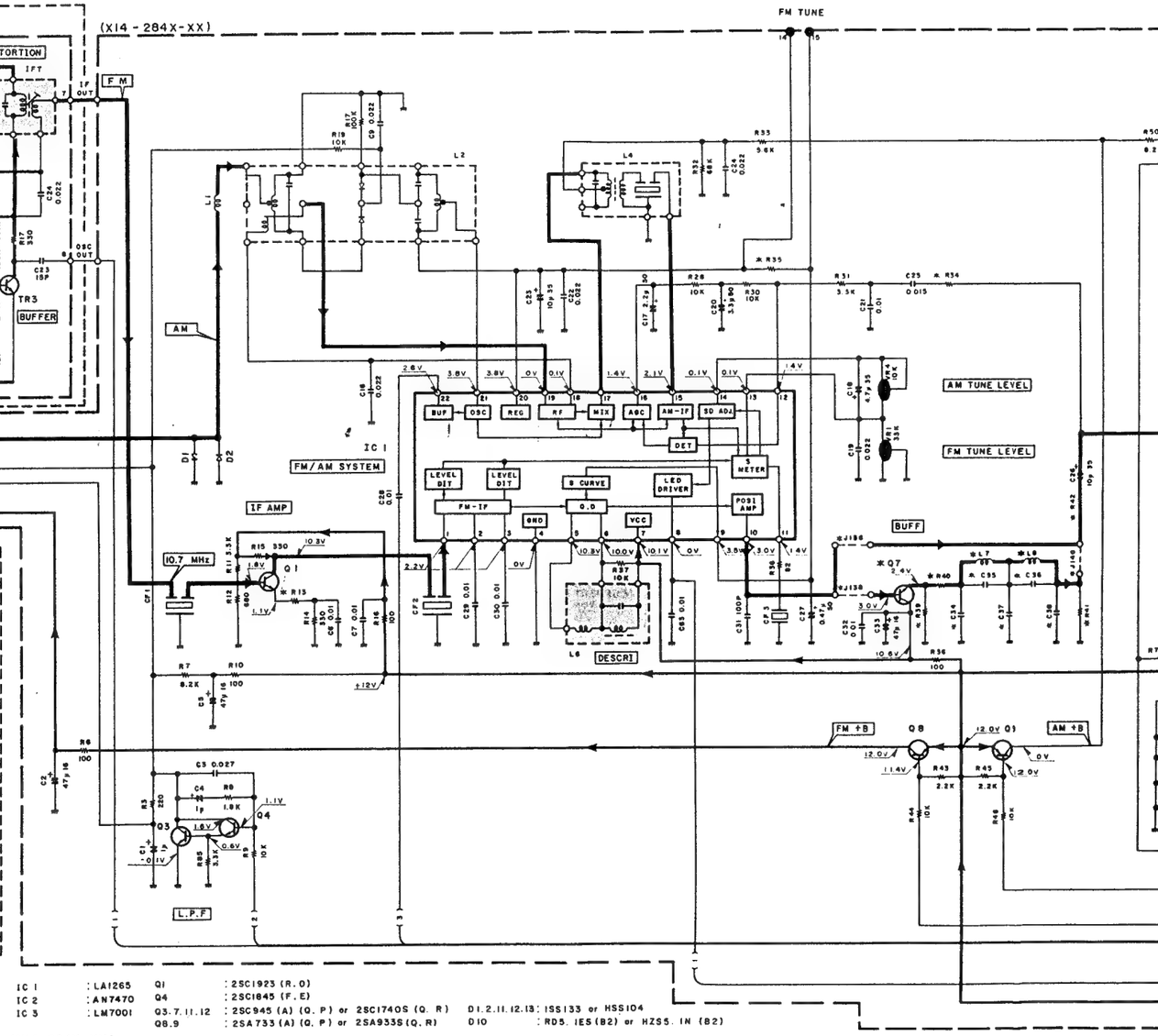
Ref. No.		Address
IC	Q	
	1	4I
	3	3I
	4	4I
	7	5I
	8	5I
	9	5I
	11	6I
	12	6I
	21	4H
	22	4H
	23	5G
	24	5G
	25	6E
	26	4E
	27	6E
	28	5E
	29	6E
	30	4E
	31	6E
	32	5E
	33	4G
	34	5G
	35	5H
	36	6G
	37	5D
	38	1E
	39	2F
1		5J
2		6J
3		4I
4		4H
5		4H
6		4G
7		7H
8		6D
9		2F
10		2E

X85-1170-07

Ref. No.		Address
IC	Q	
	1	3M
	2	4M
	3	3M
	4	4M
	5	3L
	6	4L
	7	3L
	8	4L
	9	4L
	10	4L





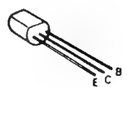


IC 1 : LA1265
IC 2 : AN7470
IC 3 : LM7001

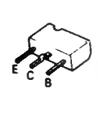
Q1 : 2SC1923 (R, O)
Q4 : 2SC1845 (F, E)
Q3, 7, 11, 12 : 2SC945 (A) (Q, P) or 2SC1740S (Q, R)
Q8, 9 : 2SA733 (A) (Q, P) or 2SA933S (Q, R)

D1, 2, 11, 12, 13 : 1SS133 or HSS104
D10 : RD5. 1ES(B2) or HZS5. 1N (B2)

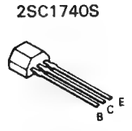
2SA733(A)
2SA992
2SB764
2SC1845
2SC1923
2SC2003
2SC2878
2SC945(A)



2SA937F

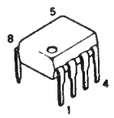


2SA933S
2SC1740S

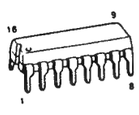


2SC4137

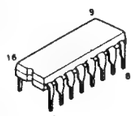
NJM4558D-A



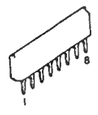
LM7001



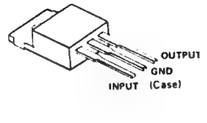
AN7470
TC4052BP



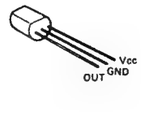
UPC1237HA



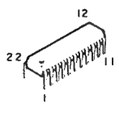
UPC7812HF



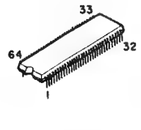
PST529C



LA1265



CXP5016-520S



(X14-284X-XX)

Ref. NO. / DESTINATION		BLOCK A	BLOCK B	R1	R2	R13	R34	R35	R39	R40	R41	R42	R59	R60	R61, 62	R63, 64	R65, 66	R67, 68	R83, 84	C34	C35	C36	C37	C38	BLOCK C	C46, 47	C49	C50, 51	C52, 53	C54, 55	C64
0 - 10	K, P	YES	NO	J147	NO	56	36K	15K	NO	NO	NO	39K	NO	330K	3.6K	39K	NO	NO	NO	NO	NO	NO	NO	NO	NO	150p	NO	1.0 μ 50	NO	0.022 μ	NO
0 - 21	M	YES	NO	J147	NO	56	36K	39K	NO	NO	NO	39K	NO	330K	3.6K	39K	1.0K	47K	NO	NO	NO	NO	NO	NO	YES	150p	NO	1.0 μ 50	7500p	0.015 μ	NO
0 - 71	X	YES	NO	J147	NO	56	36K	39K	NO	NO	NO	39K	NO	330K	3.6K	39K	NO	NO	NO	NO	NO	NO	NO	NO	NO	150p	NO	1.0 μ 50	NO	0.015 μ	NO
2 - 71	T, E	NO	YES	4.7k	10K	22	47K	39K	3.3K	2.2K	47K	47K	470	NO	3.3K	3.3K	NO	NO	12K	470p	120p	270p	1500p	1300p	NO	1000p	22p	2.2 μ 50	NO	4700p	22 μ

DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

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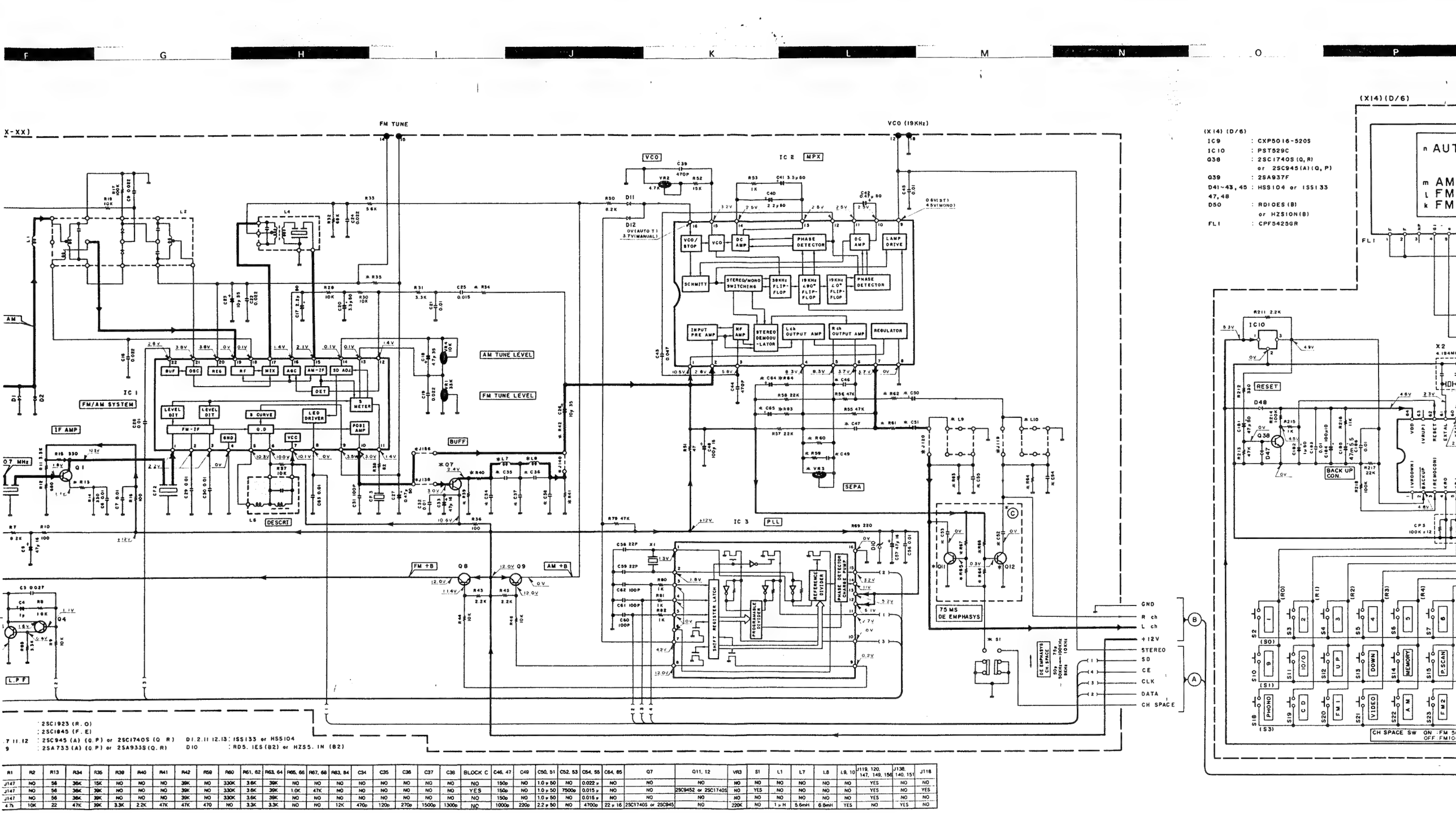

R1	R2	R13	R34	R35	R38	R40	R41	R42	R59	R60	R61, 62	R63, 64	R65, 66	R67, 68	R83, 84	C34	C35	C36	C37	C38	BLOCK C	C46, 47	C49	C50, 51	C52, 53	C54, 55	C64, 65	Q7	Q11, 12	VR3	S1	L1	L7	L8	L9, 10	J119, 120, 147, 149, 156	J138, 140, 151	J118
J147	NO	56	36K	15K	NO	NO	NO	39K	NO	330K	3.6K	39K	NO	NO	NO	NO	NO	NO	NO	NO	NO	150p	NO	1.0 μ 50	NO	0.022 μ	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
J147	NO	56	36K	39K	NO	NO	NO	39K	NO	330K	3.6K	39K	1.0K	47K	NO	NO	NO	NO	NO	NO	YES	150p	NO	1.0 μ 50	7500p	0.015 μ	NO	NO	2SC9452 or 2SC1740S	NO	YES	NO	NO	NO	NO	YES	NO	YES
J147	NO	56	36K	39K	NO	NO	NO	39K	NO	330K	3.6K	39K	NO	NO	NO	NO	NO	NO	NO	NO	NO	150p	NO	1.0 μ 50	NO	0.015 μ	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
4.7k	10K	22	47K	39K	3.3K	2.2K	47K	47K	470	NO	3.3K	3.3K	NO	NO	12K	470p	120p	270p	1500p	1300p	NO	1000p	220p	2.2 μ 50	NO	4700p	22 μ 16	2SC1740S or 2SC945	NO	220K	NO	1 μ H	5.6mH	6.8mH	YES	NO	YES	NO

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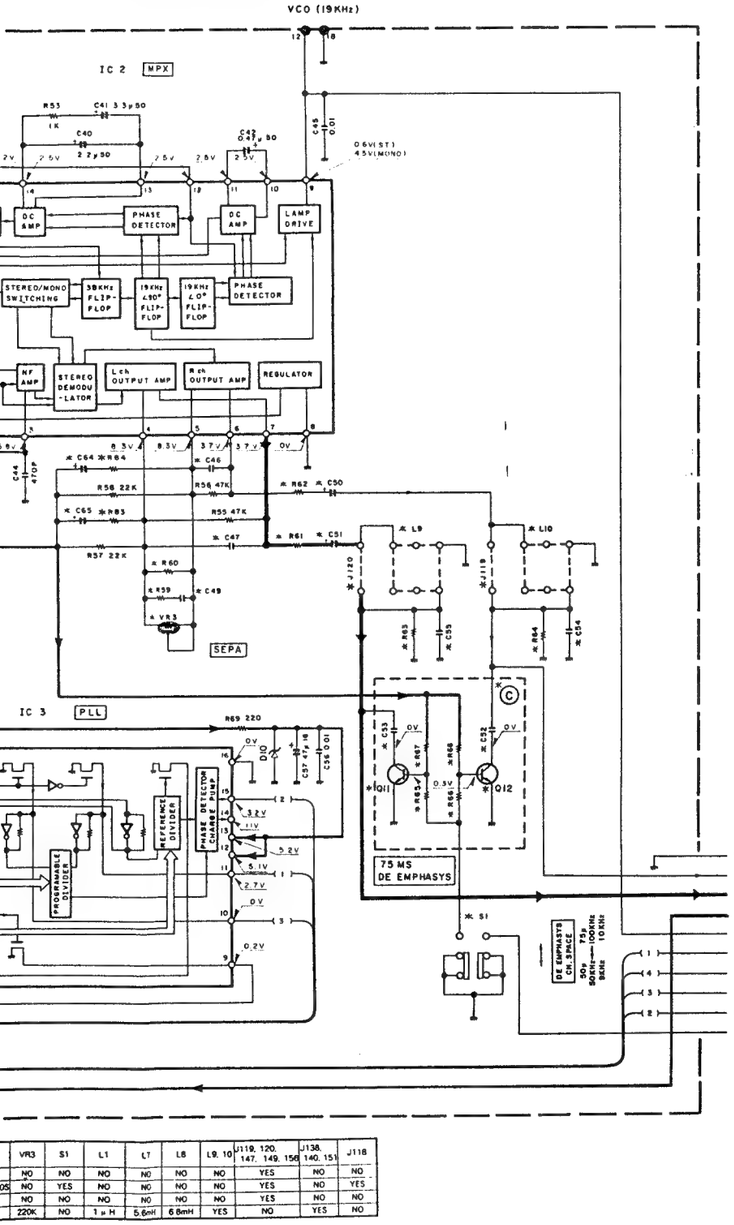
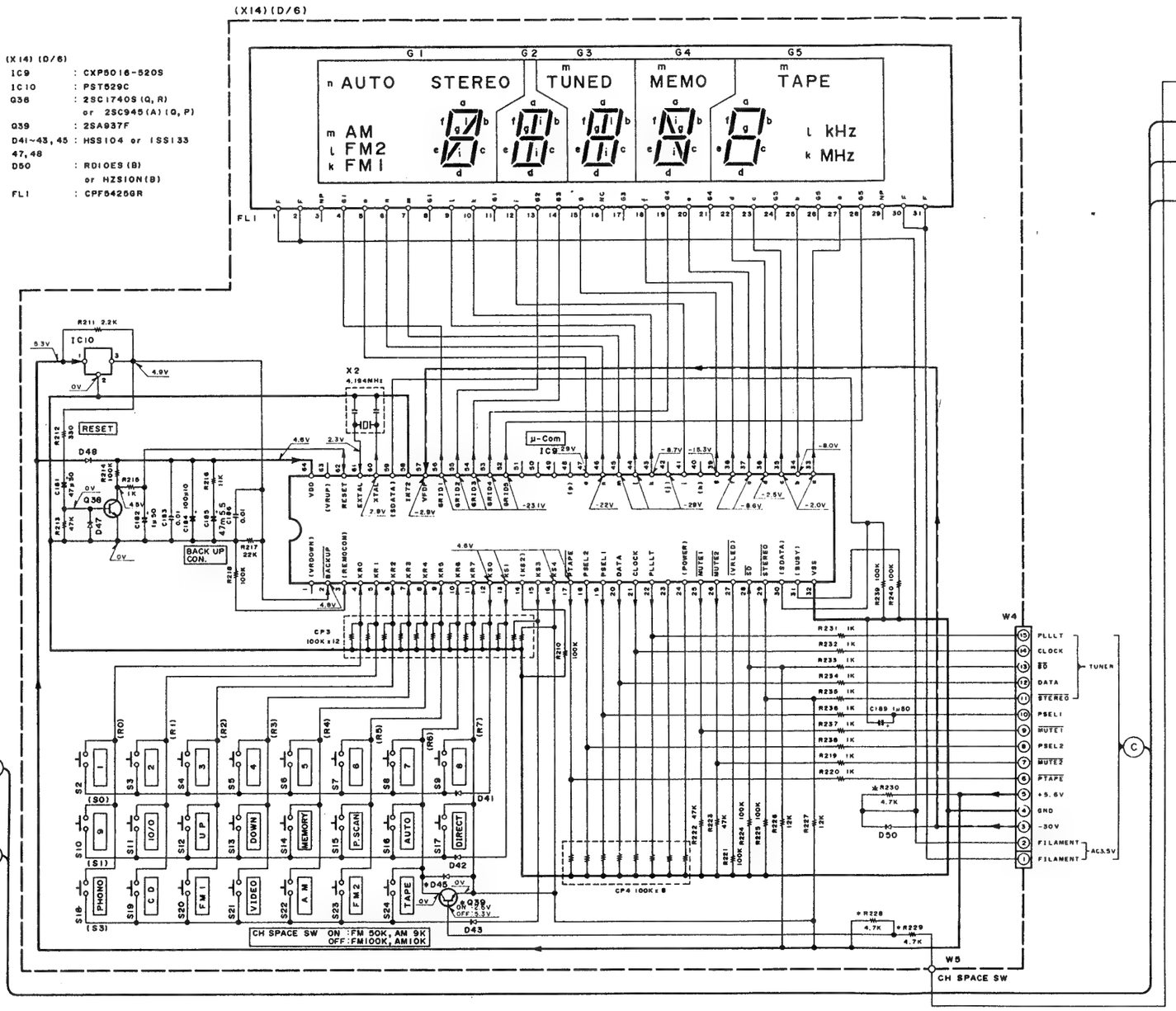


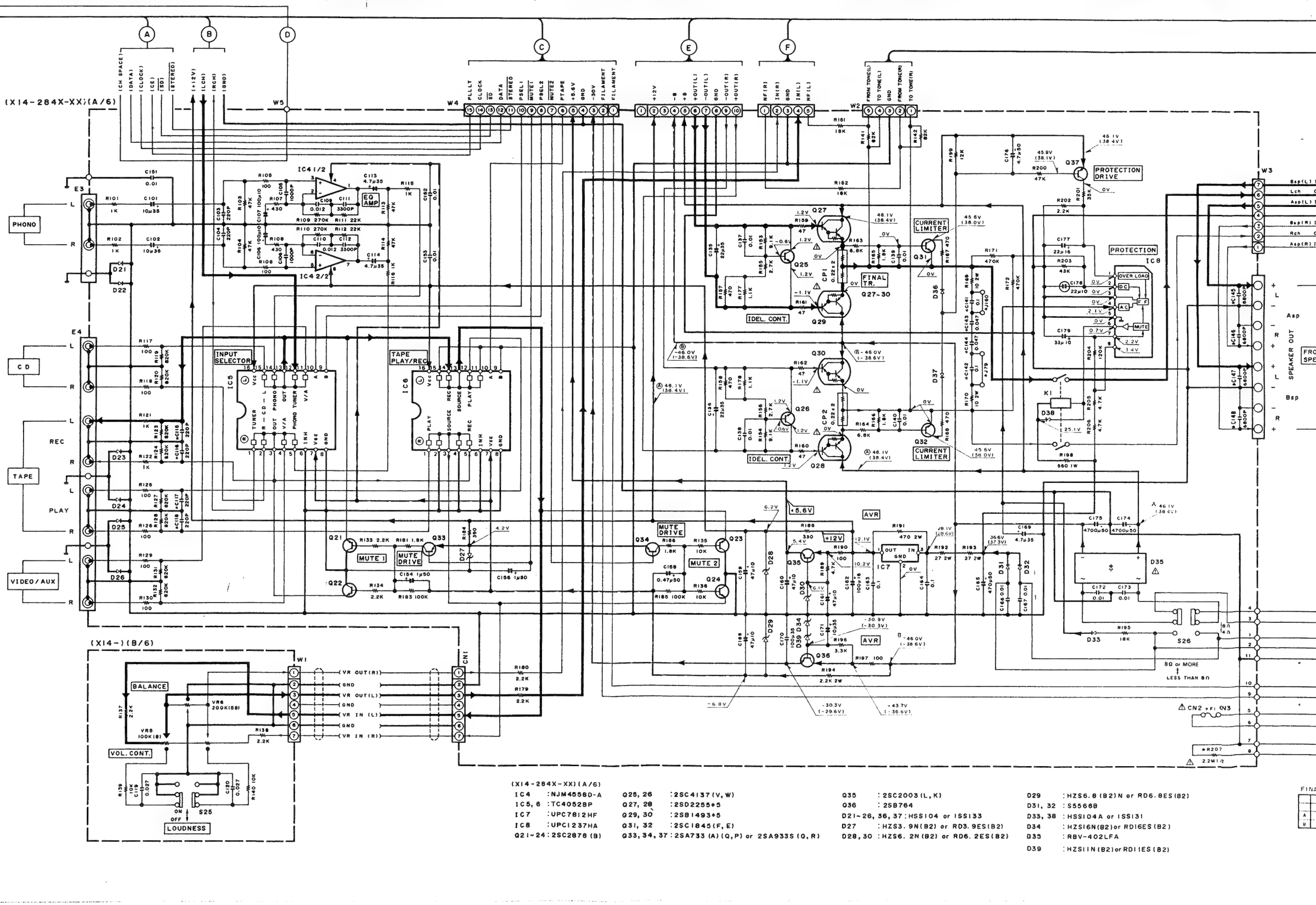
	VR3	S1	L1	L7	L8	L9, 10	J119, 120, 147, 149, 156	J138, 140, 151	J118
	NO	NO	NO	NO	NO	NO	YES	NO	NO
05	NO	YES	NO	NO	NO	NO	YES	NO	YES
	NO	NO	NO	NO	NO	NO	YES	NO	NO
	220K	NO	1 μ H	5.6mH	6.8mH	YES	NO	YES	NO

(X14) (D/6)
IC9 : CXP5016-520S
IC10 : PST529C
Q36 : 2SC1740S (Q, R) or 2SC945 (A) (Q, P)
Q39 : 2SA937F
D41~43, 45 47, 48 : HSS104 or 1SS133
D50 : RD10ES (B) or HZS10N (B)
FL1 : CPF5425GR



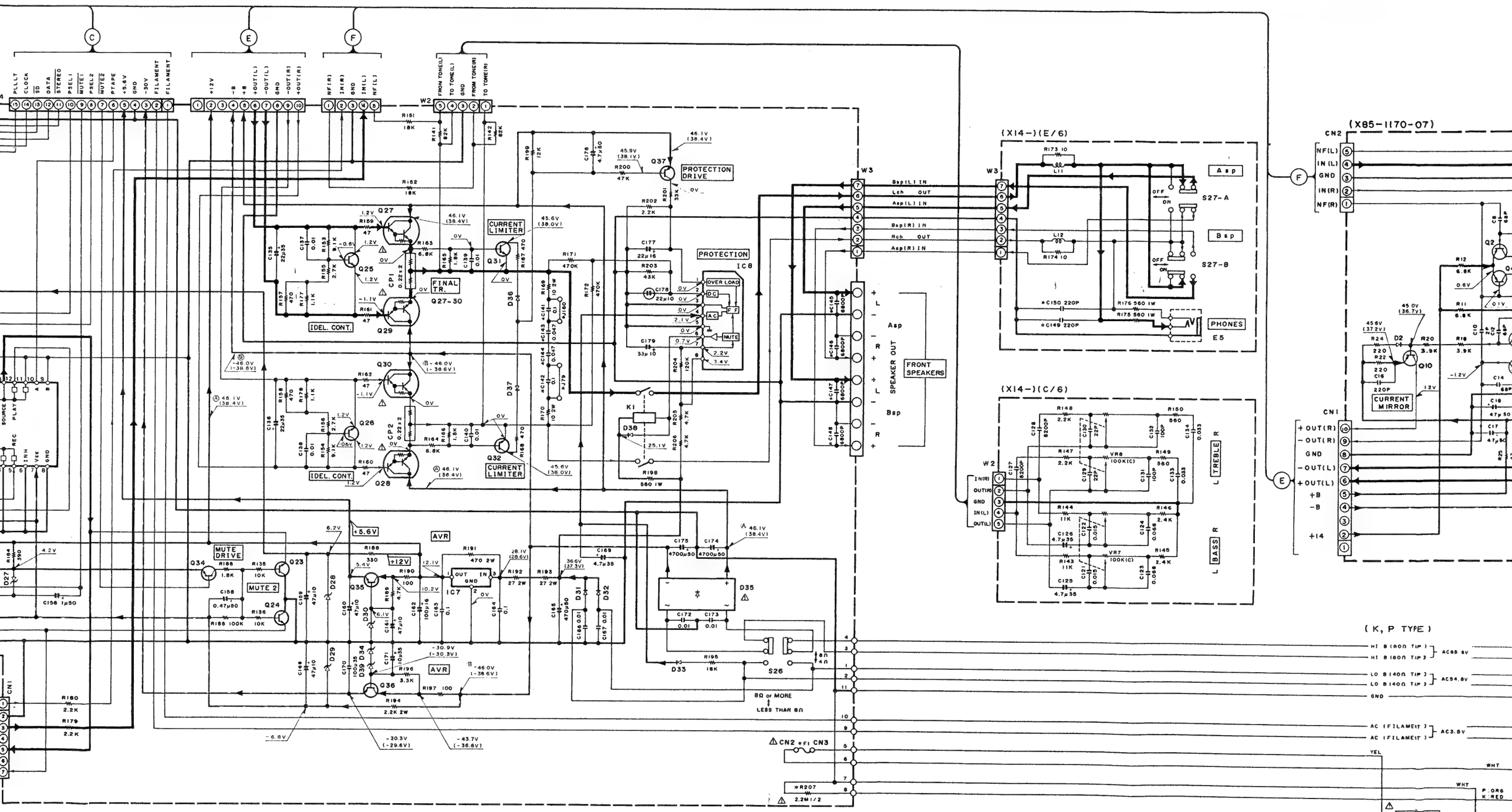
KR-A4020

KENWOOD



(X14-284X-XX)(A/6)

IC4	:NJM4558D-A	Q25, 26	:2SC4137(V, W)	Q35	:2SC2003(L, K)	D29	:HZS6.8(B2)N or RD6.8ES(B2)
IC5, 6	:TC40528P	Q27, 28	:2SD2255*5	Q36	:2SB764	D31, 32	:S5566B
IC7	:UPC7812HF	Q29, 30	:2SB1493*5	D21~26, 36, 37	:HSS104 or 1SS133	D33, 38	:HSS104A or 1SS131
IC8	:UPC1237HA	Q31, 32	:2SC1845(F, E)	D27	:HZS3.9N(B2) or RD3.9ES(B2)	D34	:HZS16N(B2)or RD16ES(B2)
Q21~24	:2SC2878(B)	Q33, 34, 37	:2SA733(A)(Q, P) or 2SA933S(Q, R)	D28, 30	:HZS6.2N(B2) or RD6.2ES(B2)	D35	:RBV-402LFA
						D39	:HZS11N(B2)or RD11ES(B2)

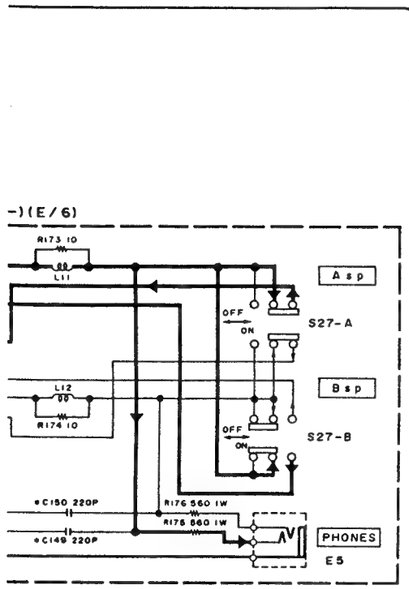


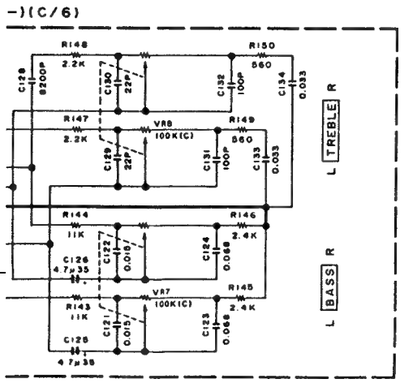
(X14-284X-XX)(A/6)

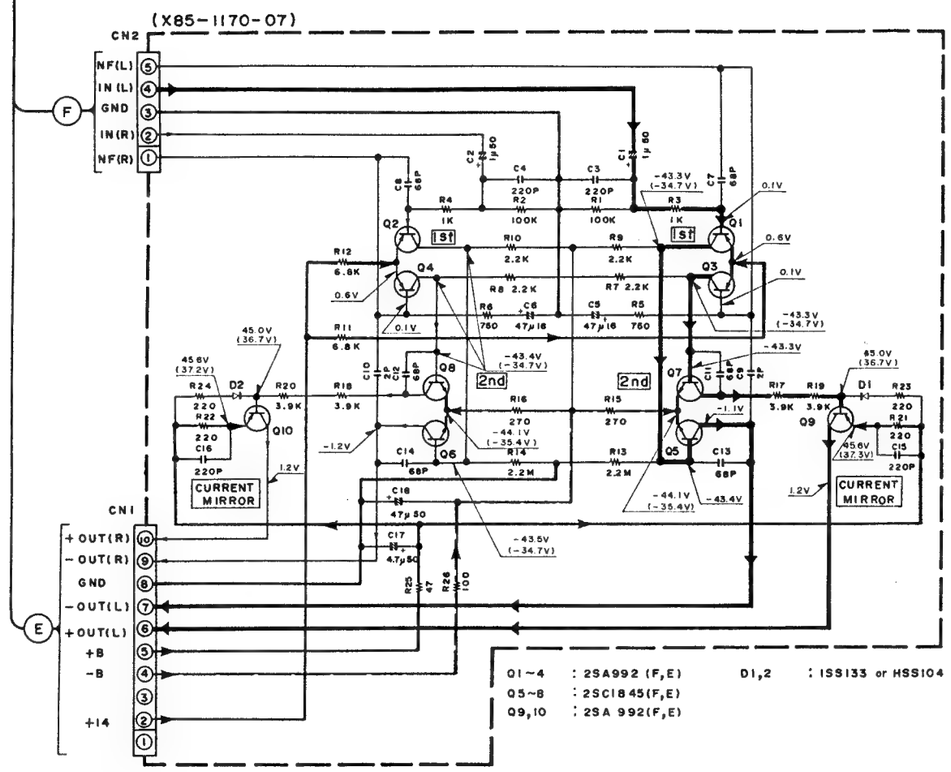
IC4	:NJM4558D-A	Q25, 26	:2SC4137(V, W)	Q35	:2SC2003(L, K)	D29	:HZS6.8(B2)N or RD6.8ES(B2)
IC5, 6	:TC4052BP	Q27, 28	:2SD2255*5	Q36	:2SB764	D31, 32	:S55668
IC7	:UPC7812HF	Q29, 30	:2SB1493*5	D21~26, 36, 37	:HSS104 or 1SS133	D33, 38	:HSS104A or 1SS131
IC8	:UPC1237HA	Q31, 32	:2SC1845(F, E)	D27	:HZS3.9N(B2) or RD3.9ES(B2)	D34	:HZS16N(B2)or RD16ES(B2)
Q21~24	:2SC2878(B)	Q33, 34, 37	:2SA733(A)(Q, P) or 2SA933S(Q, R)	D28, 30	:HZS6.2N(B2) or RD6.2ES(B2)	D35	:RBV-402LFA
						D39	:HZS11N(B2)or RD11ES(B2)

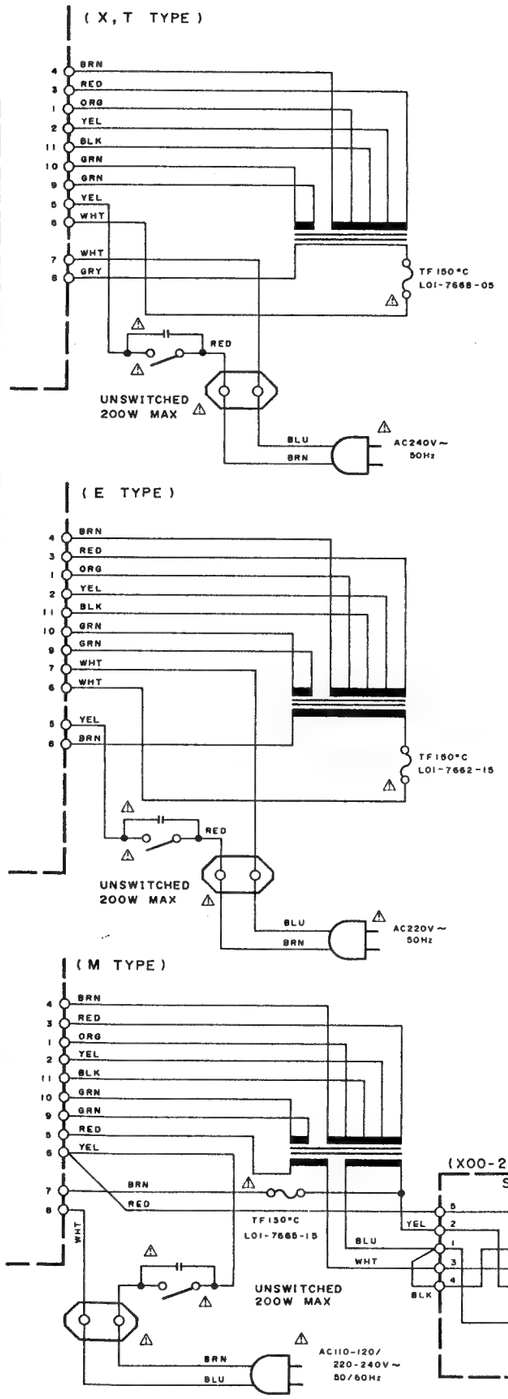
FINAL TR±B

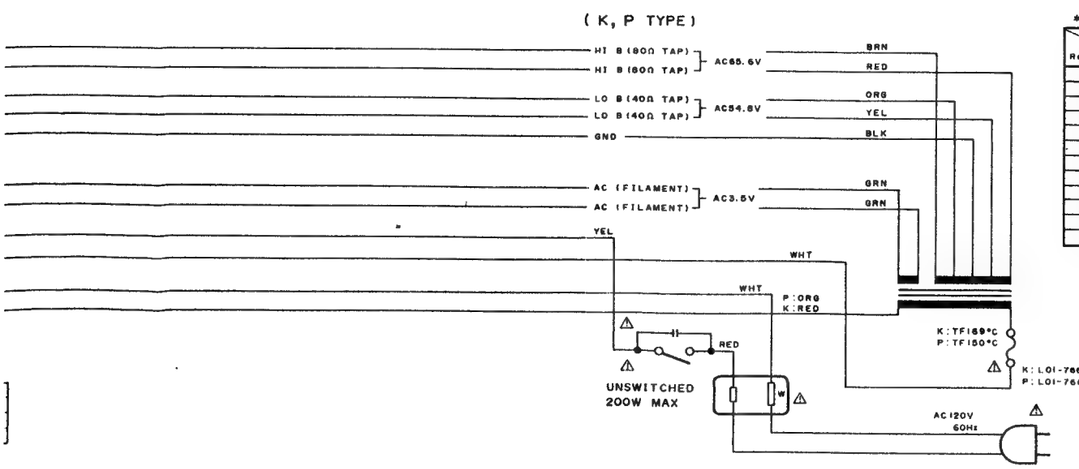
	S26 (X14)	
	8Ω or MORE	(LESS THAN 8Ω)
A	46.1V	38.4V
B	-46.0V	-38.6V











* X14-284X-XX

DESTINATION / Ref. No.	K,P	M	X	T,E
	0-10	0-21	0-71	2-71
R207	YES	NO	NO	NO
R228,229	NO	YES	NO	NO
R230	YES	NO	NO	NO
C115~118	NO	NO	NO	YES
C141,142	NO	NO	NO	0.1
C143,144	0.047	0.047	0.047	0.1
C145~148	NO	NO	NO	YES
C149,150	NO	NO	NO	YES
D45	NO	NO	NO	YES
Q59	NO	YES	NO	NO
F1 250V	3A	T1.25A	T1.25A	T1.25A
J79,150	YES	YES	YES	NO

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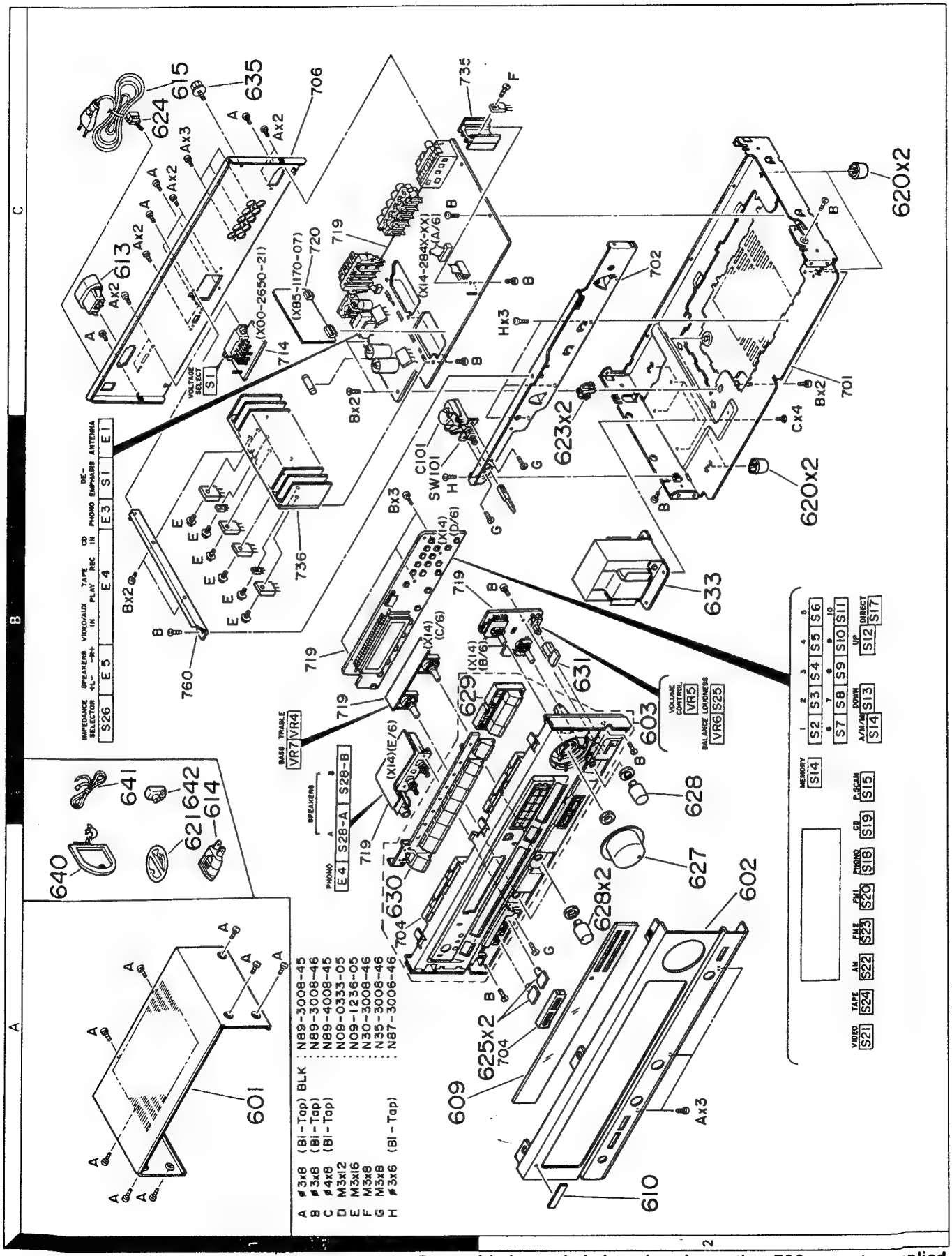
KR-A4020

KENWOOD

EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

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PARTS LIST

× New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnes dans le Parts No. ne sont pas fournis.
Telle ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
			KR-A4020			
601	1A	*	A01-1832-01	METALLIC CABINET		
602	2A	*	A20-5989-02	PANEL	KPMX	
602	2A	*	A20-5990-02	PANEL	TE	
603	1A,2B	*	A22-1190-02	SUB PANEL ASSY		
609	2A	*	B10-1076-03	FRONT GLASS		
610	2A		B43-0287-04	KENWOOD BADGE	TE	
-			B46-0092-03	WARRANTY CARD	K	
-			B46-0096-13	WARRANTY CARD	X	
-			B46-0121-03	WARRANTY CARD	P	
-			B46-0122-13	WARRANTY CARD	E	
-			B46-0143-13	WARRANTY CARD	T	
-		*	B50-7896-00	INSTRUCTION MANUAL (ENGLISH)		
-		*	B50-7897-00	INSTRUCTION MANUAL (FRENCH)	PM	
-		*	B50-7898-00	INSTRUCTION MANUAL (FR,GE,DU)	E	
-		*	B50-7899-00	INSTRUCTION MANUAL (SPANISH)	M	
-			B58-0803-13	CAUTION CARD	E	
⚠ C101	1C		C91-0647-05	CERAMIC 0.01UF P		
⚠ 613	1C		E03-0041-05	AC OUTLET	KP	
⚠ 613	1C		E03-0055-05	AC OUTLET	ME	
⚠ 613	1C		E03-0085-05	AC OUTLET	T	
⚠ 613	1C		E03-0114-05	AC OUTLET	X	
⚠ 614	1A		E03-0115-05	AC PLUG ADAPTER	M	
⚠ 615	1C		E30-0459-05	AC POWER CORD	ME	
⚠ 615	1C		E30-1341-05	AC POWER CORD	X	
⚠ 615	1C		E30-1416-05	AC POWER CORD	T	
⚠ 615	1C		E30-2209-05	AC POWER CORD	KP	
⚠ F1			F05-1222-05	FUSE (SEMKO) (250V T1.25A)	M	
-		*	H01-8729-04	ITEM CARTON CASE	KPMXE	
-		*	H01-8731-04	ITEM CARTON CASE	T	
-		*	H10-3953-02	POLYSTYRENE FOAMED FIXTURE		
-		*	H10-3954-02	POLYSTYRENE FOAMED FIXTURE		
-			H25-0223-04	PROTECTION BAG (750X350X0.03)		
-			H25-0232-04	PROTECTION BAG (235X350X0.03)		
620	2B,2C		J02-1013-05	FOOT	KPMX	
620	2B,2C		J02-1034-05	FOOT	TE	
621	1A		J19-2815-04	ANTENNA HOLDER		
622	2C	*	J19-3188-05	UNIT HOLDER		
623	2C	*	J19-3179-05	UNIT HOLDER		
⚠ 624	1C		J42-0083-05	POWER CORD BUSHING		
-			J61-0307-05	WIRE BAND		
625	2A	*	K27-2006-04	KNOB (BUTTON)(SPEAKER)		
627	2A		K29-3597-04	KNOB (VOLUME CONTROL)		
628	2A,2B	*	K29-3894-04	KNOB (BASS,TREBLE,BALANCE)		
629	1B,2B	*	K29-3893-04	KNOB (TUNING)		
630	1A,1B	*	K29-3892-03	KNOB (INPUT SELECTOR)		
631	2B	*	K27-2011-04	KNOB (BUTTON)(LOUDNESS)		
⚠ 633	2B		L01-7661-05	POWER TRANSFORMER	K	
⚠ 633	2B		L01-7662-15	POWER TRANSFORMER	E	
⚠ 633	2B	*	L01-7665-15	POWER TRANSFORMER	M	

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⚠633	2B		L01-7667-05	POWER TRANSFORMER	P	
⚠633	2B		L01-7668-05	POWER TRANSFORMER	XT	
635	1C		N08-0128-35	BINDING POST (EARTH)		
A	1A,1C		N89-3008-45	BINDING HEAD TAPTITE SCREW		
B	1B		N89-3008-46	BINDING HEAD TAPTITE SCREW		
C	2B		N89-4008-45	BINDING HEAD TAPTITE SCREW		
G	2A		N35-3008-46	BINDING HEAD MACHINE SCREW		
H	1B,2C		N87-3006-46	BRAZIER HEAD TAPTITE SCREW		
⚠S101	1B,1C		S40-1067-05	PUSH SWITCH (POWER SWITCH)		
640	1A		T90-0174-05	LOOP ANTENNA		
641	1B		T90-0175-05	T TYPE ANTENNA		
642	1B		T90-0177-05	ANTENNA ADAPTOR	TE	
POWER SUPPLY UNIT (X00-2650-21)						
⚠F1			F05-1222-05	FUSE (SEMKO) (250V T1.25A)	M	
CN1 ,2			J13-0075-05	FUSE CLIP	M	
⚠S1			S31-2131-05	SLIDE SWITCH (VOLTAGE SELECT)	M	
RECEIVER UNIT (X14-2840-10: K, P 0-21: M, 0-71: X, T, 2-71: E)						
C1			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C2			CE04LW1C470M	ELECTRO 47UF 16WV		
C3			CF92FV1H273J	MF 0.027UF J		
C4			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C5			CE04LW1C470M	ELECTRO 47UF 16WV		
C6 ,7			CK45FF1H103Z	CERAMIC 0.010UF Z		
C9			CK45FF1H223Z	CERAMIC 0.022UF Z		
C16			CK45FF1H223Z	CERAMIC 0.022UF Z		
C17			CE04LW1H2R2M	ELECTRO 2.2UF 50WV		
C18			CE04LW1V4R7M	ELECTRO 4.7UF 35WV		
C19			CK45FF1H223Z	CERAMIC 0.022UF Z		
C20			CE04LW1H3R3M	ELECTRO 3.3UF 50WV		
C21			CK45FF1H103Z	CERAMIC 0.010UF Z		
C22			CK45FF1H223Z	CERAMIC 0.022UF Z		
C23			CE04LW1V100M	ELECTRO 10UF 35WV		
C24			CK45FF1H223Z	CERAMIC 0.022UF Z		
C25			CF92FV1H153J	MF 0.015UF J		
C26			CE04LW1V100M	ELECTRO 10UF 35WV		
C27			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C28			C91-0769-05	CERAMIC 0.01UF M		
C29 ,30			CK45FF1H103Z	CERAMIC 0.010UF Z		
C31			CC45FSL1H101J	CERAMIC 100PF J		
C32			C91-0769-05	CERAMIC 0.01UF M		
C33			CE04LW1C470M	ELECTRO 47UF 16WV		
C34			CK45FB1H471K	CERAMIC 470PF K	TE	
C35			CC45FSL1H121J	CERAMIC 120PF J	TE	
C36			CC45FSL1H271J	CERAMIC 270PF J	TE	
C37			CF92FV1H152J	MF 1500PF J	TE	
C38			CF92FV1H132J	MF 1300PF J	TE	
C39			CC93FCH1H471J	CERAMIC 470PF J		
C40			CE04LW1H2R2M	ELECTRO 2.2UF 50WV		
C41			CE04LW1H3R3M	ELECTRO 3.3UF 50WV		
C42			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C43			CF92FV1H473J	MF 0.047UF J		

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C44			CK45FB1H471K	CERAMIC	470PF	K		
C45			C91-0769-05	CERAMIC	0.01UF	M		
C46 ,47			CC45FSL1H151J	CERAMIC	150PF	J	KPMX	
C46 ,47			CK45FB1H102K	CERAMIC	1000PF	K	TE	
C48			CE04LW1C101M	ELECTRO	100UF	16WV		
C49			CC45FSL1H221J	CERAMIC	220PF	J	TE	
C50 ,51			CE04LW1H010M	ELECTRO	1.0UF	50WV	KPMX	
C50 ,51			CE04LW1H2R2M	ELECTRO	2.2UF	50WV	TE	
C52 ,53			CF92FV1H752J	MF	7500PF	J	M	
C54 ,55			CF92FV1H153J	MF	0.015UF	J	MX	
C54 ,55			CF92FV1H223J	MF	0.022UF	J	KP	
C54 ,55			CF92FV1H472J	MF	4700PF	J	TE	
C56			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C57			CE04LW1C470M	ELECTRO	47UF	16WV		
C58 ,59			CC45FCH1H220J	CERAMIC	22PF	J		
C60 -62			CC45FSL1H101J	CERAMIC	100PF	J		
C63			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C64 ,65			CE04LW1C220M	ELECTRO	22UF	16WV	TE	
C101,102			CE04LW1V100M	ELECTRO	10UF	35WV		
C103,104			CC45FSL1H221J	CERAMIC	220PF	J		
C105,106			CK45FB1H102K	CERAMIC	1000PF	K		
C107,108			CE04LW1A101M	ELECTRO	100UF	10WV		
C109,110			CF92FV1H123J	MF	0.012UF	J		
C111,112			CF92FV1H332J	MF	3300PF	J		
C113,114			CE04LW1V4R7M	ELECTRO	4.7UF	35WV		
C115-118			CC45FSL1H221J	CERAMIC	220PF	J	TE	
C119,120			CF92FV1H273J	MF	0.027UF	J		
C121,122			CF92FV1H153J	MF	0.015UF	J		
C123,124			CF92FV1H683J	MF	0.068UF	J		
C125,126			CE04LW1V4R7M	ELECTRO	4.7UF	35WV		
C127,128			CF92FV1H822J	MF	8200PF	J		
C129,130			CC45FSL1H220J	CERAMIC	22PF	J		
C131,132			CC45FSL1H101J	CERAMIC	100PF	J		
C133,134			CF92FV1H333J	MF	0.033UF	J		
C135,136			CE04LW1V220M	ELECTRO	22UF	35WV		
C137-140			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C141-144			CF92FV1H104J	MF	0.10UF	J	TE	
C143,144			CF92FV1H473J	MF	0.047UF	J	KPMX	
C145-148			CF92FV1H682J	MF	6800PF	J	TE	
C149,150			CC45FSL1H221J	CERAMIC	220PF	J	TE	
C151-153			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C154			CE04LW1H010M	ELECTRO	1.0UF	50WV		
C156			CE04LW1H010M	ELECTRO	1.0UF	50WV		
C158			CE04LW1HR47M	ELECTRO	0.47UF	50WV		
C159-161			CE04LW1A470M	ELECTRO	47UF	10WV		
C162			CE04LW1C101M	ELECTRO	100UF	16WV		
C163,164			CF92FV1H104J	MF	0.10UF	J		
C165			CE04LW1H471M	ELECTRO	470UF	50WV		
C166,167			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C168			CE04LW1A470M	ELECTRO	47UF	10WV		
C169			CE04LW1V4R7M	ELECTRO	4.7UF	35WV		
C170			CE04LW1V101M	ELECTRO	100UF	35WV		
C171			CE04LW1V100M	ELECTRO	10UF	35WV		
C172,173			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C174,175			C90-1780-05	ELECTRO	4700UF	50WV		

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C176			CE04LW1H4R7M	ELECTRO 4.7UF 50WV		
C177			CE04LW1C220M	ELECTRO 22UF 16WV		
C178			C90-1333-05	NP-ELEC 22UF 10WV		
C179			CE04LW1C330M	ELECTRO 33UF 16WV		
C181			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C182			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C183			CK45FF1H103Z	CERAMIC 0.010UF Z		
C184			CE04LW1A101M	ELECTRO 100UF 10WV		
C185		*	C90-1827-05	BACKUP 0.047F 5.5WV		
C186			CK45FF1H103Z	CERAMIC 0.010UF Z		
C189			CE04LW1H010M	ELECTRO 1.0UF 50WV		
E1			E20-0321-05	LOCK TERMINAL BOARD (ANTENNA)	TE	
E1			E20-0476-05	LOCK TERMINAL BOARD (ANTENNA)	KPMX	
E3			E13-0235-05	PHONO JACK (2P)(PHONO)		
E4			E13-0820-05	PHONO JACK (8P)(CD,TAPE,VIDEO)		
E5			E11-0162-05	HEADPHONE JACK (3P)	KPMX	
E5			E11-0189-05	HEADPHONE JACK (3P)	TE	
E6			E20-0823-05	LOCK TERMINAL BOARD(8P)(SP)		
⚠F1			F05-1222-05	FUSE (SEMKO) (250V T1.25A)	MXTE	
⚠F1			F06-3027-05	FUSE (UL)	KP	
CN2 ,3			J13-0075-05	FUSE CLIP		
CF1 ,2			L72-0531-05	CERAMIC FILTER	KPMX	
CF1 ,2			L72-0536-05	CERAMIC FILTER	TE	
CF3			L72-0096-05	CERAMIC FILTER		
L1			L40-1091-17	SMALL FIXED INDUCTOR		
L2			L39-0189-05	COMBINATION COIL		
L4			L30-0454-15	AM IFT		
L6			L30-0439-25	FM IFT		
L7			L40-5625-29	SMALL FIXED INDUCTOR(5.6MH,J)	TE	
L8			L40-6825-29	SMALL FIXED INDUCTOR(6.8MH,J)	TE	
L9 ,10			L79-0790-05	LC FILTER	TE	
L11 ,12			L39-0085-05	PHASE-COMPENSATION COIL		
X1			L77-1122-05	CRYSTAL RESONATOR		
X2			L78-0209-05	RESONATOR (4.194MHZ)		
A	1C		N89-3008-45	BINDING HEAD TAPTITE SCREW		
D	1B		N09-0333-05	TAPPING SCREW (3X12)		
E	1B		N09-1236-05	TAPPING SCREW (3X16)		
F	2C		N30-3008-46	PAN HEAD MACHINE SCREW		
CP1 ,2			R90-0187-05	MULTI-COMP 0.22X2 K 5W		
CP3			R90-0479-05	MULTIPLE RESISTOR		
CP4			R90-0492-05	MULTI-COMP 100KX8 J 1/6W		
R6			RD14NB2E101J	RD 100 J 1/4W		
R10			RD14NB2E101J	RD 100 J 1/4W		
R36			RD14NB2E101J	RD 100 J 1/4W		
R51			RD14NB2E101J	RD 100 J 1/4W		
R69			RD14NB2E221J	RD 220 J 1/4W		
R159-162			RD14NB2E470J	RD 47 J 1/4W		
R169,170			RS14KB3D100J	FL-PROOF RS 10 J 2W		
R175,176			RS14KB3A561J	FL-PROOF RS 560 J 1W		
R184		*	RD14NB2E391J	RD 390 J 1/4W		
R188		*	RD14NB2E331J	RD 330 J 1/4W		
R190			RD14NB2E101J	RD 100 J 1/4W		

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R191			RS14KB3D471J	FL-PROOF RS 470 J 2W		
R192,193			RS14KB3D270J	FL-PROOF RS 27 J 2W		
R194			RS14KB3D222J	FL-PROOF RS 2.2K J 2W		
R197			RD14NB2E101J	RD 100 J 1/4W		
R198			RS14KB3A561J	FL-PROOF RS 560 J 1W		
R207			R92-0173-05	RC 2.2M M 1/2W	KP	
VR1			R12-3130-05	TRIMMING POT.(33K)		
VR2			R12-1089-05	TRIM POT. 4.7K		
VR3			R12-5060-05	TRIMMING POT.(220K)	TE	
VR4			R12-3126-05	TRIM POT. 10K		
VR5		*	R06-5194-05	POTENTIOMETER(100K X2)(VOLUME)		
VR6			R01-5067-05	POTENTIOMETER(BALANCE)		
VR7 ,8			R06-5138-05	POTENTIOMETER(100KX2)(TONE)		
K1			S51-2092-05	MAGNETIC RELAY		
S1			S31-2132-05	SLIDE SWITCH(DE-EMPHASIS)	M	
S2 -24			S40-1064-05	PUSH SWITCH (KEY BORD)		
S25			S40-2351-05	PUSH SWITCH (LOUDNESS)		
S26			S31-2136-05	SLIDE SWITCH(IMPEDANCE SELECT)		
S27			S42-2138-05	MULTIPLE PUSH SWITCH(SP A/B)		
D1 ,2			HSS104	DIODE		
D1 ,2			1SS133	DIODE		
D10			HZS5.1N(B2)	ZENER DIODE		
D10			RD5.1ES(B2)	ZENER DIODE		
D11 ,12			HSS104	DIODE		
D11 ,12			1SS133	DIODE		
D21 -26			HSS104	DIODE		
D21 -26			1SS133	DIODE		
D27			HZS3.9N(B2)	ZENER DIODE		
D27			RD3.9ES(B2)	ZENER DIODE		
D28			HZS6.2N(B2)	ZENER DIODE		
D28			RD6.2ES(B2)	ZENER DIODE		
D29			HZS6.8N(B2)	ZENER DIODE		
D29			RD6.8ES(B2)	ZENER DIODE		
D30			HZS6.2N(B2)	ZENER DIODE		
D30			RD6.2ES(B2)	ZENER DIODE		
D31 ,32			S5566B	DIODE		
D33			HSS104A	DIODE		
D33			1SS131	DIODE		
D34			HZS30N(B)	ZENER DIODE		
D34			RD30ES(B)	ZENER DIODE		
D35			RBV-402LFA	DIODE		
D36 ,37			HSS104	DIODE		
D36 ,37			1SS133	DIODE		
D38			HSS104A	DIODE		
D38			1SS131	DIODE		
D41 -43			HSS104	DIODE		
D41 -43			1SS133	DIODE		
D45			HSS104	DIODE	TE	
D45			1SS133	DIODE	TE	
D47 ,48			HSS104	DIODE		
D47 ,48			1SS133	DIODE		
D50			HZS10N(B)	ZENER DIODE		
D50			RD10ES(B)	ZENER DIODE		
FL1		*	CPF5425GR	FLUORESCENT INDICATOR TUBE		

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IC1			LA1265	IC(FM/AM TUNER)		
IC2			AN7470	IC(FM MPX)		
IC3			LM7001	IC(PLL FREQUENCY SYNTHESIZER)		
IC4			NJM4558D-A	IC(OP AMP X2)		
IC5 ,6			TC4052BP	IC(4CH MPX/DE-MPX)		
IC7			UPC7812HF	IC(VOLTAGE REGULATOR/ +12V)		
IC8			UPC1237HA	IC(POWER AMP)		
IC9		*	CXP5016-520S	IC(4BIT MICROCONPUTER)		
IC10			PST529C	IC(SYSTEM RESET)		
Q1			2SC1923(R,O)	TRANSISTOR		
Q3			2SC1740S(Q,R)	TRANSISTOR		
Q3			2SC945(A)(Q,P)	TRANSISTOR		
Q4			2SC1845(F,E)	TRANSISTOR		
Q7			2SC1740S(Q,R)	TRANSISTOR	TE	
Q7			2SC945(A)(Q,P)	TRANSISTOR	TE	
Q8 ,9			2SA733(A)(Q,P)	TRANSISTOR		
Q8 ,9			2SA933S(Q,R)	TRANSISTOR		
Q11 ,12			2SC1740S(Q,R)	TRANSISTOR	M	
Q11 ,12			2SC945(A)(Q,P)	TRANSISTOR	M	
Q21 -24			2SC2878(B)	TRANSISTOR		
Q25 ,26			2SC4137(V,W)	TRANSISTOR		
Q27 ,28		*	2SD2255*5	TRANSISTOR		
Q29 ,30		*	2SB1493*5	TRANSISTOR		
Q31 ,32			2SC1845(F,E)	TRANSISTOR		
Q33 ,34			2SA733(A)(Q,P)	TRANSISTOR		
Q33 ,34			2SA933S(Q,R)	TRANSISTOR		
Q35			2SC2003(L,K)	TRANSISTOR		
Q36			2SB764	TRANSISTOR		
Q37			2SA733(A)(Q,P)	TRANSISTOR		
Q37			2SA933S(Q,R)	TRANSISTOR		
Q38			2SC1740S(Q,R)	TRANSISTOR		
Q38			2SC945(A)(Q,P)	TRANSISTOR		
Q39			2SA937F	TRANSISTOR	M	
			W02-1041-05	FM FRONT-END ASSY	TE	
			W02-1042-05	FM FRONT-END ASSY	KPMX	
MAIN AMPLIFIER UNIT (X85-1170-07)						
C1 ,2			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C3 ,4			CC45FSL1H221J	CERAMIC 220PF J		
C5 ,6			CE04LW1C470M	ELECTRO 47UF 16WV		
C7 ,8			CC45FSL1H680J	CERAMIC 68PF J		
C9 ,10			CC45FSL1H020C	CERAMIC 2.0PF C		
C11 -14			CC45FSL1H680J	CERAMIC 68PF J		
C15 ,16			CC45FSL1H221J	CERAMIC 220PF J		
C17			CE04LW1H4R7M	ELECTRO 4.7UF 50WV		
C18			CE04LW1H470M	ELECTRO 47UF 50WV		
R15 ,16			RD14GB2E271J	FL-PROOF RD 270 J 1/4W		
R21 -24			RD14GB2E221J	FL-PROOF RD 220 J 1/4W		
R25			RD14GB2E470J	FL-PROOF RD 47 J 1/4W		
R26			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
D1 ,2			HSS104	DIODE		
D1 ,2			1SS133	DIODE		
Q1 -4			2SA992(F,E)	TRANSISTOR		
Q5 -8			2SC1845(F,E)	TRANSISTOR		
Q9 ,10			2SA992(F,E)	TRANSISTOR		

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SPECIFICATIONS

AUDIO SECTION

Rated Power Output (Except for Europe)

40 watts per channel minimum RMS, both channels driven at 8 ohms, from 40 Hz 20,000 Hz with no more than 0.09% total harmonic distortion. (FTC)

Maximum continuous output power (For Europe)
(IEC) from 63 Hz to 12,500 Hz 0.7% T.H.D.
at 8 ohms ..... 45 W + 45 W
(DIN) 1,000 Hz at 8 ohms ..... 45 W + 45 W

Total Harmonic Distortion
(1 kHz 8 ohms) ..... 0.09% at 40 W

Input Sensitivity/Impedance
PHONO (MM) ..... 2.5 mV/47 kohms
CD, TAPE, VIDEO ..... 150 mV/47 kohms

Frequency Response
CD ..... 10 Hz ~ 50 kHz $^{+0\ dB}_{-3\ dB}$

Signal-to-Noise Ratio (IHF-A)
PHONO (MM) ..... 78 dB for 5 mV input
CD, TAPE, VIDEO ..... 100 dB for 150 mV input

Tone Controls
BASS ..... ± 10 dB/100 Hz
TREBLE ..... ± 10 dB/10 kHz

FM TUNER SECTION

Tuning Frequency Range ..... 87.5 MHz ~ 108 MHz
Antenna Impedance ..... 300 ohms balanced & 75 ohms unbalanced

Sensitivity
IHF ..... 10.8 dBf (0.95 μV)
DIN (MONO) ..... 1.1 μV
(STEREO) ..... 40 μV

Signal-to-Noise Ratio at 65dBf (IHF)
Mono ..... 79 dB
Stereo ..... 73 dB

Total Harmonic Distortion at 1,000 Hz (IHF)
Mono 0.3%
Stereo 0.5%

Total Harmonic Distortion at 1,000 Hz (DIN)
Mono 0.3%
Stereo 0.4%

Frequency Response ..... 30 Hz ~ 15 kHz $^{+0.5\ dB}_{-2\ dB}$

Stereo Separation (IHF) ..... 45 dB at 1 kHz
(DIN) ..... 40 dB at 1 kHz

AM TUNER SECTION

Tuning Range
530 kHz ~ 1,610 kHz
(with the AM tuning interval set at 10 kHz)
531 kHz ~ 1,602 kHz
(with AM tuning interval set at 9 kHz)

Usable Sensitivity ..... 12 μV (400 μV/m)
Signal-to-Noise Ratio ..... 50 dB
Total Harmonic Distortion 0.5%
Selectivity ..... 23 dB

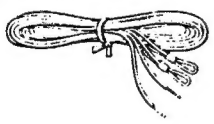
GENERAL

Power Consumtion ..... 1.9 A ..... USA and Canada Model/ 120 W .... Others
Dimensions ..... 440 (W) x 133 (H) x 284 (D) mm (17-5/16" x 5-1/4" x 11-3/16")
Weight (Net) ..... 5.6 kg (12.3 lb)

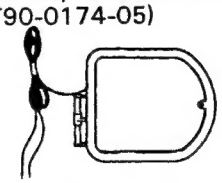
Note :
Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

Accessories

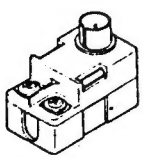
FM indoor antenna 1
(T90-0175-05)



AM loop antenna 1
(T90-0174-05)

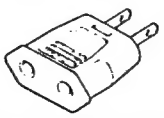


75 ohm/300 ohm antenna adaptor 1
(For Europe and U.K.)
(T90-0177-05)



Loop antenna holder 1
(J19-2815-04)

AC plug adaptor 1
(Except for some areas)
(E03-0115-05)



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